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ABSTRACT

This document is the answer key for level 5 of the teacher-developed mathematics curriculum for New York City schools. Over 250 performance objectives are listed, with reference to the appropriate worksheet(s) for each. The answers are typed in the appropriate space on each sheet; when varied answers are possible, this is noted. (MNS)

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CIMS

COMPREHENSIVE INSTRUCTIONAL MANAGEMENT SYSTEM

A Cyclical Mathematics Curriculum

LEVEL 5

Answer Key

NEW YORK CITY BOARD OF EDUCATION
OFFICE OF CURRICULUM DEVELOPMENT AND SUPPORT
DIVISION OF CURRICULUM & INSTRUCTION

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It is the commitment of the Comprehensive Instructional Management System (CIMS) to develop a teacher-designed curriculum, a computer assisted assessment system and to provide ongoing staff development that is responsive to the needs of the teachers and supervisors who are using the program.

In response to the many requests from the teachers using the CIMS curriculum, we have produced an answer key document. It is our intention that the answers provided in this document will prove to be time efficient which would allow the teachers to add the time saved to planning and preparing for the delivery of mathematics instruction. We hope that you, the teachers and supervisors of the Comprehensive Instructional Management system, will find this answer key useful.

This answer key was developed as a project by the Comprehensive Instructional Management System (CIMS) of the Division of Curriculum and Instruction, Pearl Warner, Executive Director (Acting), Susan Zakaluk, Director of Mathematics, Arthur Flug and Doreen D. Genkin, Assistant Directors of CIMS.

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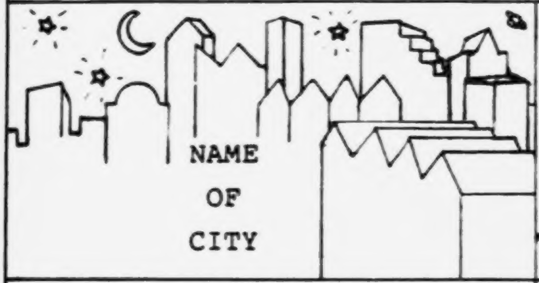
5.01.06.01 -.02	Identify the Roman symbol D and use it, with I, V, X, L, and C, to write Roman numerals through 899 (DCCCXCIX); identify the Roman symbol M and use it, with I, V, X, L, C, and D, to write Roman numerals from 900 through 2000 (CM through MM)	96a
5.01.06.03	Rename a Roman numeral as its Arabic equivalent	96b
Units 67,68, 69	**SHARPENING YOUR SKILLS**	**96c**
5.01.07.01 -.02	Identify place value through billions; identify place value through hundred billions	97a
5.01.08.01 -.03	Identify the basic symbols in base five; read a base five place value chart; find the base ten equivalent of a base five numeral	98a
5.01.08.04	Find the base five equivalent of a base ten numeral	98b
5.01.09.01 -.03	Identify the pattern of symbols in a base twelve (duo-decimal) system: ($T=10_{ten}$ and $E=11_{ten}$); find the base ten equivalent of a base twelve numeral; find the base twelve equivalent of a base ten numeral	99a
Units 70,71, 72	**SHARPENING YOUR SKILLS**	**99b**

P.O. 5.14.01.01

NAME: ______________ **CLASS:** ______ **DATE:** ______________

Use the chart to answer the questions below.

AVERAGE TEMPERATURES AND PRECIPITATION FOR OCTOBER

 NAME OF CITY	AVERAGE DAILY MAXIMUM TEMPERATURE	AVERAGE PRECIPITATION (rain or snow) to the nearest half inch
Caribou, Maine	54°	1 inch
Denver, Colorado	55°	3½ inches
Los Angeles, California	72°	½ inch
Miami, Florida	84°	2 inches
New York, New York	68°	4 inches

1. Which city has an average temperature of 72°? Los Angeles

2. Which city has the highest average temperature for the month of October? Miami

3. Which city has the least amount of precipitation? Los Angeles

4. How much greater is the average precipitation in New York than in Caribou, Maine? 3 inches

5. What is the difference in average temperature between the warmest and coolest cities? 30°

6. If the average daily maximum temperature in Denver decreases by 7 degrees in November, what will it be? 48°

P.O. 5.14.01.02

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

Read the selections below and answer the questions.

A. Omaha, Nebraska and New York City are about the same distance from the equator, yet their average temperatures are quite different. New York's average temperature in January is 32°F. Omaha's average temperature in January is 9° colder than that of New York. This is because New York City is a coastal city and Omaha is an inland city. These same conditions are true for Portland, Maine, which is a coastal city, and Minneapolis, Minnesota, an inland city. Portland's average temperature in January is 23°F, while the average temperature in Minneapolis is 12°F.

1. What is the average January temperature in Omaha? 23° F
2. On the average, how much colder is it in Minneapolis than in Portland in January? 11° F
3. Which of the four cities has the lowest average temperature in January? Minneapolis

---

B. In many cities in the United States, the amount of precipitation varies from season to season. For example, in Chicago, Illinois, the average precipitation in June is 4.0 inches, while in December, the average precipitation is 2.1 inches. In Tampa, Florida, there is an average of 6.5 inches of precipitation in June and 2.2 inches in December.

1. Which city averages more than 5 inches of precipitation in June? Tampa
2. On the average, how much more precipitation does Tampa have than Chicago in June? 2.5 inches
3. What is the total average precipitation during June and December in Tampa? 8.7 inches

2

P.O. 5.14.01.03

NAME: ______________________ CLASS: ________ DATE: ______________

Write a √ beside each problem below which can be solved by using the chart. Write an X beside each problem which cannot be solved by using the information on the chart. Solve each problem with a √ beside it.

Bill's Travel Plans for 1987

COUNTRY	AMOUNT OF TIME
China	4 months
Italy	3 months
Brazil	2 months
Puerto Rico	2 months
Egypt	1 month

1. √ For what part of the year will Bill be visiting China? 4 months or $\frac{1}{3}$ year

2. √ Which four countries does Bill plan to visit for a total of 8 months? Italy, Brazil, Puerto Rico, Egypt

3. √ How many months does Bill plan to spend on the continent of Africa?
1 month

4. √ What fractional part of the year does Bill plan to spend in China, Brazil, and Puerto Rico? $\frac{8}{12}$ year or $\frac{2}{3}$ year

5. √ If Bill lives in New York, what fractional part of the year will he not be traveling? $\frac{0}{12}$ or 0

6. X What is the total number of hours Bill plans to spend on an airplane? ______________

7. √ In which countries does Bill plan to spend 2 months each?
Brazil, Puerto Rico

P.O. 5.14.02.01-.02

NAME: ____________ CLASS: ______ DATE: ____________

Use the place value chart to help you answer the questions below.

Thousands			Units		
hundred thousands	ten thousands	thousands	hundreds	tens	ones

In each case name the place of the digit which is underlined.

① 34,726 thousands
② 563,295 hundred thousands
③ 47,801 hundreds
④ 680,597 ten thousands
⑤ 211,468 hundreds
⑥ 4,759 thousands
⑦ 297,411 hundred thousands
⑧ 620,031 thousands
⑨ 9,200 tens

⑩ The 2 in 72,846 means 2 x 1,000 or 2,000
⑪ The 4 in 412,836 means 4 x 100,000 or 400,000
⑫ The 3 in 76,347 means 3 x 100 or 300
⑬ The 6 in 612,284 means 6 x 100,000 or 600,000
⑭ The 7 in 972,546 means 7 x 10,000 or 70,000
⑮ The 8 in 48,109 means 8 x 1,000 or 8,000

Write each standard numeral in expanded notation.

⑯ 36,347 = 30,000 + 6,000 + 300 + 40 + 7
⑰ 412,826 = 400,000 + 10,000 + 2,000 + 800 + 20 + 6
⑱ 527,604 = 500,000 + 20,000 + 7,000 + 600 + 4
⑲ 969,086 = 900,000 + 60,000 + 9,000 + 80 + 6
⑳ 478,646 = 400,000 + 70,000 + 8,000 + 600 + 40 + 6

Write each expanded numeral in standard notation.

㉑ 4,000 + 500 + 60 + 3 = 4,563
㉒ 40,000 + 6000 + 300 + 90 + 1 = 46,391
㉓ 700,000 + 30,000 + 4,000 + 600 + 30 + 7 = 734,637
㉔ 500,000 + 50,000 + 2,000 + 200 + 80 + 5 = 552,285
㉕ 300,000 + 70,000 + 6,000 + 400 + 20 + 8 = 376,428

P.O. 5.14.02.03

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

Draw a ring around the greater number for each pair of numbers.

① [✓ 786,549] 784,621

② 871,999 [✓ 880,121]

③ [✓ 421,657] 421,557

④ [✓ 807,624] 779,246

⑤ [✓ 302,511] 301,613

⑥ 553,609 [✓ 53,619]

⑦ 843,006 [✓ 943,060]

⑧ [✓ 156,700] 155,701

Write < or > to make each statement true.

⑨ 793,421 < 796,487

⑩ 414,623 < 425,636

⑪ 631,842 < 631,921

⑫ 570,398 > 569,842

⑬ 201,244 > 200,736

⑭ 615,230 < 641,380

⑮ 234,567 > 136,998

⑯ 193,285 < 203,121

Write the numbers in each group in order from least to greatest.

⑰ 786,342 896,300 895,672

786,342 895,672 896,300

⑱ 261,346 261,332 260,387

260,387 261,332 261,346

⑲ 929,375 929,464 919,386

919,386 929,375 929,464

⑳ 403,208 503,208 402,208

402,208 403,208 503,208

Do you remember?

Estimate the sums and differences. Find the actual answers.

Estimated Answers	
1.	2,000
2.	2,000
3.	1,000

1. $\begin{array}{r} 5,406 \\ -\ 2,694 \\ \hline 2,712 \end{array}$

2. $\begin{array}{r} 3,517 \\ +\ 1,668 \\ \hline 1,849 \end{array}$

3. $\begin{array}{r} 6,035 \\ -\ 4,816 \\ \hline 1,219 \end{array}$

P.O. 5.01.01.01-.02

NAME: ______________________ **CLASS:** ______ **DATE:** __________

Sometimes reporters use rounded numbers in their news stories. Pretend you are a reporter. Round these attendance figures, for your news report, to the nearest ten thousand.

1. There were 18,345 skaters at Wollman Rink last month. There were about 20,000 skaters at the rink.
2. There were 47,963 fans at Yankee Stadium. There were about 50,000 fans at the stadium.
3. There were 98,425 people at a Rock Concert in Central Park. There were about 100,000 people at the concert.
4. There were 217,314 spectators at the July 4th fireworks display. There were about 220,000 spectators.
5. There were 845,217 people at the ticker tape parade on Wall Street. There were about 850,000 people at the parade.

Use the chart below to help you solve the problems. Round each number to the nearest ten thousand.

Indian Reservations	**Population**
Navajo	166,665
Cherokee	42,992
Hopi	8,952
Rosebud	11,685
Papago	22,501

6. The Hopi Indians have a population of about 10,000.
7. The Papago Indians have a population of about 20,000.
8. The population of the Cherokees is about 40,000.

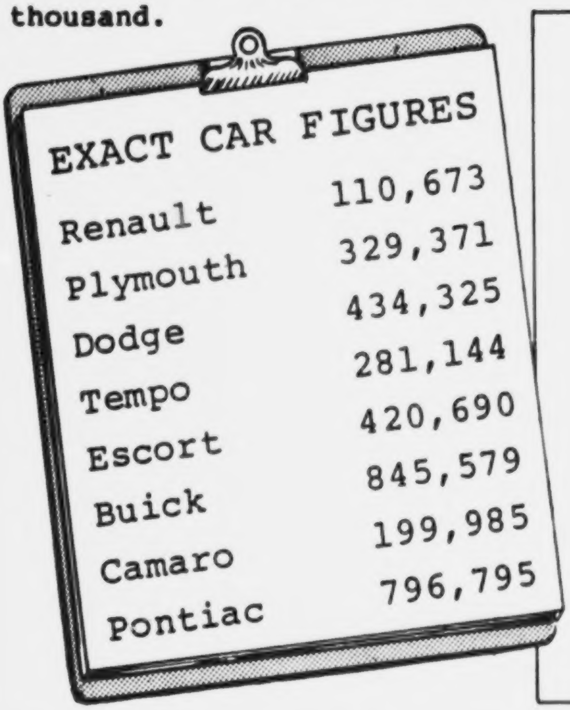
CHALLENGE!

9. The 5 Indian reservations listed above have a total population of about 250,000.
10. Find a combination of Indian reservations which have a total population of about 40,000. Hopi, Rosebud, and Papago

P.O. 5.01.01.03 -.04

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

Pretend you work for the Environmental Protection Agency. You need to know the number of cars manufactured in the United States in a given year. Since approximate figures have been requested, complete your report by rounding the numbers to the nearest hundred thousand.



EXACT CAR FIGURES

Renault	110,673
Plymouth	329,371
Dodge	434,325
Tempo	281,144
Escort	420,690
Buick	845,579
Camaro	199,985
Pontiac	796,795

EPA REPORT - U.S.A.

Buick 800,000

Plymouth 300,000

Tempo 300,000

Camaro 200,000

Dodge 400,000

Escort 400,000

Pontiac 800,000

Renault 100,000

Round the following numbers to the nearest hundred thousand.

1. 744,950 700,000
2. 125,864 100,000
3. 470,650 500,000
4. 973,250 1,000,000
5. 675,000 700,000
6. 652,276 700,000

Do you remember?

Write > or < to make a correct sentence for each pair.

63,251 > 63,052

51,680 < 63,280

114,625 < 114,635

720,010 < 731,010

P.O. 5.01.01.04

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Read each problem. Round each answer to the nearest ten thousand, hundred thousand, or both.

1. In a recent election, Mario Cuomo received 425,675 votes. About how many people voted for Mario Cuomo?

   nearest ten thousand: 430,000

   nearest hundred thousand: 400,000

2. During a membership drive, the Republicans recruited 24,324 members in January. About how many members were recruited?

   nearest ten thousand: 20,000

3. The Statue of Liberty weighs 449,275 pounds. If the iron skeleton weighs 219,325 pounds, about how much does the copper sheeting, covering the skeleton, weigh?

   nearest ten thousand: 230,000

   nearest hundred thousand: 200,000

4. At the convention the Democrats sold 52,179 donkey pictures. About how many donkey pictures did the Democrats sell?

   nearest ten thousand: 50,000

5. The Vice President receives a salary of 97,925 dollars. About how much money does the Vice President receive?

   nearest ten thousand: 100,000

   nearest hundred thousand: 100,000

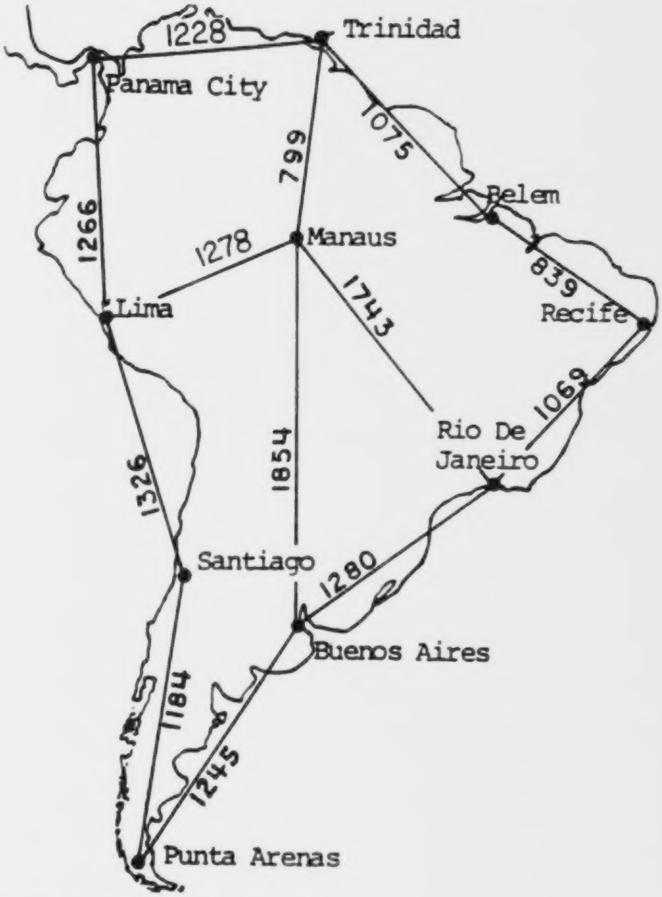
6. President Reagan received 745,625 votes in 1 small state. V.P. Mondale received 342,125 votes in the same state. About how many people voted for Reagan and Mondale in this state?

   nearest hundred thousand: 1,000,000

P.O. **5.14.03.01**

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Use the map of South America below to estimate the mileage for the following trips.


1228
Trinidad
Panama City
1075
799
Belem
1266
1278
Manaus
839
Lima
Recife
1743
1069
Rio De Janeiro
1326
1854
Santiago
1280
Buenos Aires
1184
1245
Punta Arenas

Mr. Gomez, businessman, travels:	
from Manaus to Rio De Janeiro	1743 rounds to 2000
from Rio De Janeiro to Buenos Aires	1,280 rounds to 1,000
from Buenos Aires back to Manaus.	1,854 rounds to 2,000
	total 5,000 miles

Ms. Ruiz, tourist, travels:	
from Manaus to Lima	1,278 rounds to 1,000
from Lima to Panama City	1,266 rounds to 1,000
from Panama City to Trinidad.	1,228 rounds to 1,000
	total 3,000 miles

Ms. Fox, businesswoman, travels:	
from Rio De Janeiro to Recife	1,069 rounds to 1,000
from Recife to Belem	839 rounds to 1,000
from Belem to Trinidad	1,075 rounds to 1,000
from Trinidad back to Manaus.	799 rounds to 1,000
	total 4,000 miles

P.O. 5.14.03.02

NAME: ______________________ **CLASS:** ______ **DATE:** __________

Solve each example. Check by adding up.

1. 3,281
49
786
+42,168
46,284

2. 165
3,827
39
+48,821
52,852

3. 59,384
27
962
+13,784
74,157

4. 23,286
139
4
+2,692
26,121

5. $619.45
93.87
+496.48
$1,209.80

6. $96.52
8.29
+39.25
$144.06

7. $839.00
21.69
+818.18
$1,678.87

8. $ 83.37
425.96
+ 2.50
$511.83

9. 66
78
934
8,123
+14,199
23,400

10. 8,004
21
398
8,716
+42,168
59,307

11. $693.52
.78
9.53
92.84
+ 68.68
$865.35

12. $ 39.94
9.94
249.94
69.94
+209.94
$579.70

Use the chart to answer questions 13-15.

Populations of Some Canadian Cities	
Forest Lawn, Alberta	12,263
Jasper Place, Alberta	30,530
Medicine Hat, Alberta	24,484
Flin Flon, Manitoba	11,104
St. James, Manitoba	33,977
Glovertown, Newfoundland	1,197
Brant, Ontario	83,839
Labelle, Quebec	29,084

13. What is the population of the three Alberta cities?

The population is 67,277.

14. What is the population of the two Manitoba cities?

The population is 45,081.

15. What is the population of the three other Canadian cities on the chart?

The population is 114,120.

CHALLENGE!

If the populations of Forest Lawn, Alberta and Jasper Place, Alberta each decrease by 2,136 people, what will the total population of the 3 Alberta cities be? 63,005 people

P.O. 5.14.03.03

NAME: ______________________ **CLASS:** ______ **DATE:** __________

Solve and check the examples below.

1.

$$\begin{array}{r} 63,529 \\ -\ 5,633 \\ \hline 57,896 \end{array}$$

check

$$\begin{array}{r} 57,896 \\ +\ 5,633 \\ \hline 63,529 \end{array}$$

2.

$$\begin{array}{r} 46,701 \\ -\ 1,404 \\ \hline 45,297 \end{array}$$

check

$$\begin{array}{r} 45,297 \\ +\ 1,404 \\ \hline 46,701 \end{array}$$

3.

$$\begin{array}{r} \$243.25 \\ -\ 19.75 \\ \hline \$223.50 \end{array}$$

check

$$\begin{array}{r} \$223.50 \\ +\ 19.75 \\ \hline \$243.25 \end{array}$$

4.

$$\begin{array}{r} \$720.07 \\ -\ 99.68 \\ \hline \$620.39 \end{array}$$

check

$$\begin{array}{r} \$620.39 \\ +\ 99.68 \\ \hline \$720.07 \end{array}$$

5.

$$\begin{array}{r} 24,250 \\ -18,169 \\ \hline 6,081 \end{array}$$

check

$$\begin{array}{r} 6,081 \\ +18,161 \\ \hline 24,250 \end{array}$$

6.

$$\begin{array}{r} 33,336 \\ -\ 447 \\ \hline 32,889 \end{array}$$

check

$$\begin{array}{r} 32,889 \\ +\ 447 \\ \hline 33,336 \end{array}$$

Solve and check the word problems below.

1. Mt. Everest, in the Himalayas, is the highest mountain peak in the world with an elevation of 29,028 feet. Mt. McKinley, in Alaska, is the highest mountain peak in America with an elevation of 20,320 feet. How much greater is the elevation of Mt. Everest than Mt. McKinley?

   solve

   check

   Mt. Everest is 8,708 feet higher than Mt. McKinley.

2. Pike's Peak, in Colorado, is 14,110 feet above sea level. Mt. Whitney, in California, is 14,494 feet above sea level. What is the difference in elevation above sea level between Pike's Peak and Mt. Whitney?

   solve

   check

   Mt. Whitney is 384 feet higher above sea level than Pike's Peak.

P.O. 5.14.03.04

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Solve and check the word problems below.

1. A team of mountain climbers climbed 6,288 feet to reach the top of Mt. Washington, 14,410 feet to the top of Mt. Ranier, and 20,320 feet to the top of Mt. McKinley. What is the total distance they climbed?

   They climbed a total of 41,018 feet.

2. The length of the Arkansas River is 2,348 km. The length of the Mississippi River is 3,779 km. If a boat traveled the length of both rivers, about how many km would the boat travel?

   The boat would travel about 6,000 km.

3. Mt. McKinley in Alaska is 20,320 feet above sea level. Mt. Marcy in New York is 5,344 feet above sea level. What is the difference in elevation between Mt. McKinley and Mt. Marcy?

   The difference is 14,976 feet.

4. Mt. Everest in Asia is 29,028 feet high. Mt. Nevada in South America is 20,023 feet high. What is the difference in elevation between Mt. Everest and Mt. Nevada?

   Mt. Everest is 9,005 feet higher than Mt. Nevada.

5. The greatest known depth of the Pacific Ocean is 10,918 meters. The average depth is 4,028 meters. Find the difference between the greatest known depth and the average depth of the Pacific Ocean.

   The difference is 6,890 meters.

SHARPENING YOUR SKILLS

Units 1, 2, 3, 4

Name: ____________________ **Class:** ____________ **Date:** ________

Carol's science report about Comets includes the chart below. Use the chart to answer questions 1-3.

COMETS		
YEAR SEEN	**NAME OF COMET**	**YEARS TO RETURN**
1806	Biela's Comet	7
1843	Great Comet of 1843	512
1844	Great Comet of 1844	102,050
1889	Swift's Comet	7
1973	Comet Kohoutek	75,108
1986	Halley's Comet	76

1. Rounded to the nearest ten thousand, about how long will it take the Great Comet of 1844 to return?

ⓐ 102,000 yr ⓒ 110,000 yr

● 100,000 yr ⓓ 50,000 yr

2. How many years passed from the year Biela's Comet was seen to the year Comet Kohoutek was seen?

167 years

3. In what year will Halley's Comet next be seen?

ⓔ 1999 ● 2062

ⓕ 2001 ⓗ 1910

4.
$$\begin{array}{r} 7 \\ 512 \\ 102{,}050 \\ 75{,}108 \\ +\quad 76 \\ \hline 177{,}753 \end{array}$$

5.
$$\begin{array}{r} 649 \\ 386 \\ 878 \\ +1{,}557 \\ \hline 3{,}470 \end{array}$$

6.
$$\begin{array}{r} 48{,}100 \\ -\quad 687 \\ \hline 47{,}413 \end{array} \qquad \begin{array}{r} \text{check} \\ 47{,}413 \\ +\quad 687 \\ \hline 48{,}100 \end{array}$$

7.
$$\begin{array}{r} 10{,}006 \\ -\quad 348 \\ \hline 9{,}658 \end{array} \qquad \begin{array}{r} \text{check} \\ 9{,}658 \\ +\quad 348 \\ \hline 10{,}006 \end{array}$$

8. Use > or < to compare each pair of numbers.

210,001 $\boxed{>}$ 196,100

312,958 $\boxed{<}$ 342,957

675,983 $\boxed{<}$ 676,010

9.

PRICE LIST			
Map	- $3.95	Pen	- $1.69
Globe	- $5.08	Book	- $6.95

Use the price list to create a word problem.

Answers will vary.

P.O. 5.14.04.01 -.02

NAME: ______________________________ **CLASS:** _______ **DATE:** __________________

Complete the statement below.

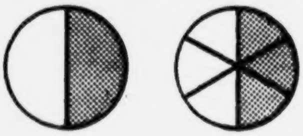
A proper fraction ________.

- ⓐ has a numerator that is greater than the denominator.
- ⓑ is greater than 1.
- ● has a numerator that is less than the denominator.
- ⓓ is less than 0.

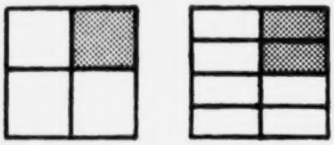
Circle each proper fraction.

[✓ $\frac{2}{4}$] $\frac{5}{3}$ [✓ $\frac{7}{9}$] [✓ $\frac{1}{4}$] $\frac{6}{6}$ [✓ $\frac{8}{10}$] [✓ $\frac{2}{7}$] $\frac{3}{2}$ [✓ $\frac{9}{12}$] [✓ $\frac{5}{6}$] [✓ $\frac{1}{2}$] $\frac{7}{5}$ $\frac{2}{2}$ [✓ $\frac{18}{40}$] $\frac{4}{1}$ [✓ $\frac{1}{5}$] [✓ $\frac{3}{8}$]

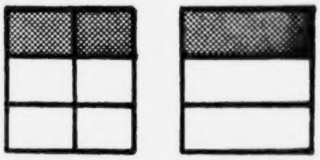
Name the equivalent fractions shown for each pair of figures.



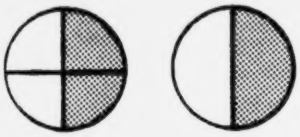
$\frac{1}{2} = \frac{3}{6}$



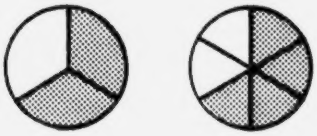
$\frac{\boxed{1}}{\boxed{4}} = \frac{\boxed{2}}{\boxed{8}}$



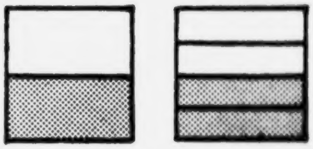
$\frac{\boxed{2}}{\boxed{6}} = \frac{\boxed{1}}{\boxed{3}}$



$\frac{\boxed{2}}{\boxed{4}} = \frac{\boxed{1}}{\boxed{2}}$



$\frac{\boxed{2}}{\boxed{3}} = \frac{\boxed{4}}{\boxed{6}}$



$\frac{\boxed{1}}{\boxed{2}} = \frac{\boxed{2}}{\boxed{4}}$

CHALLENGE!

Can you add these fractions?

Hint: Rename some fractions.

$\frac{1}{3} = \frac{2}{6}$ $\quad$ $\frac{3}{4} = \frac{9}{12}$ $\quad$ $\frac{2}{6} = \frac{10}{30}$

$+\frac{1}{6} = \frac{1}{6}$ $\quad$ $+\frac{1}{3} = \frac{4}{12}$ $\quad$ $+\frac{1}{5} = \frac{6}{30}$

$\frac{3}{6}$ or $\frac{1}{2}$ $\quad$ $\frac{13}{12}$ or $1\frac{1}{12}$ $\quad$ $\frac{16}{30}$ or $\frac{8}{15}$

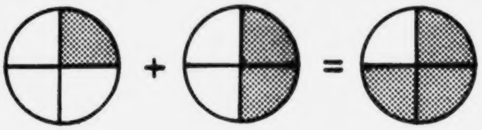
P.O. 5.14.04.03

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

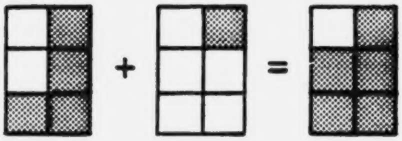
Find the sum or difference for each example below.

1. $\frac{3}{7} + \frac{1}{7} = \boxed{\frac{4}{7}}$
2. $\frac{1}{5} + \frac{3}{5} = \boxed{\frac{4}{5}}$
3. $\frac{5}{6} - \frac{2}{6} = \boxed{\frac{3}{6}}$ or $\frac{1}{2}$
4. $\frac{3}{8} + \frac{4}{8} = \boxed{\frac{7}{8}}$
5. $\frac{1}{3} + \frac{1}{3} = \boxed{\frac{2}{3}}$
6. $\frac{3}{9} - \frac{2}{9} = \boxed{\frac{1}{9}}$
7. $\frac{5}{8} - \frac{2}{8} = \boxed{\frac{3}{8}}$
8. $\frac{3}{4} - \frac{1}{4} = \boxed{\frac{2}{4}}$ or $\frac{1}{2}$
9. $\frac{6}{10} + \frac{2}{10} = \boxed{\frac{8}{10}}$ or $\frac{4}{5}$
10. $\frac{9}{12} - \frac{2}{12} = \boxed{\frac{7}{12}}$
11. $\frac{8}{10} + \frac{1}{10} = \boxed{\frac{9}{10}}$
12. $\frac{3}{10} - \frac{2}{10} = \boxed{\frac{1}{10}}$

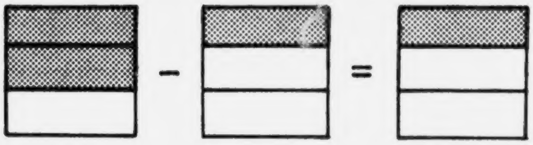
Write a number sentence for each picture.



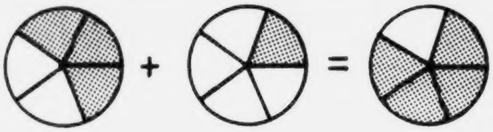
$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$



$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$



$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$



$\frac{3}{5} + \frac{1}{5} = \frac{4}{5}$

CHALLENGE!

Find the missing addends or subtrahends.

$\frac{6}{7} - \boxed{\frac{3}{7}} = \frac{3}{7}$

$\boxed{\frac{5}{12}} + \frac{1}{12} = \frac{6}{12}$ or $\frac{1}{2}$

$\boxed{\frac{3}{6}} + \frac{2}{6} = \frac{5}{6}$

$\frac{8}{9} - \boxed{\frac{3}{9}} = \frac{5}{9}$

$\boxed{\frac{3}{10}} + \frac{3}{10} = \frac{6}{10}$ or $\frac{3}{5}$

P.O. 5.14.04.04

NAME: ______________________ **CLASS:** ________ **DATE:** __________

Complete the sentences below.

1. An improper fraction is equal to or greater than 1.
2. The numerator of an improper fraction is equal to or greater than the denominator.
3. A mixed number is made up of a whole number and a fraction.

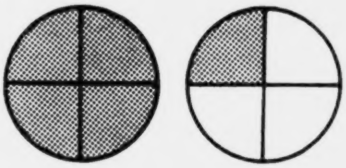
Circle each improper fraction. Draw a square around each mixed numeral.

2 [✓ $\frac{3}{2}$] $\boxed{1\frac{1}{5}}$ [✓ $\frac{6}{3}$] $\frac{2}{3}$ $\boxed{5\frac{1}{8}}$

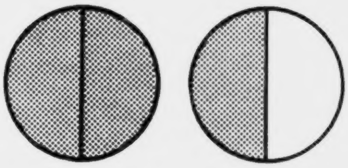
$\boxed{4\frac{1}{2}}$ 7 1 [✓ $\frac{8}{3}$] $\boxed{2\frac{1}{6}}$

[✓ $\frac{6}{2}$] 5 $\boxed{2\frac{1}{3}}$ $\frac{2}{5}$ $\boxed{9\frac{2}{3}}$ $\frac{8}{9}$

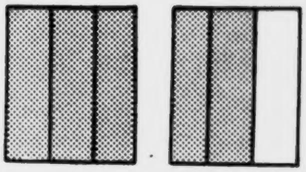
Name each shaded amount two ways, with an improper fraction and with a mixed numeral.



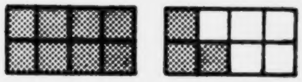
$\frac{5}{4} = 1\frac{1}{4}$



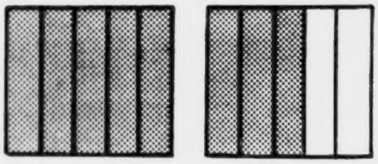
$\frac{3}{2} = 1\frac{1}{2}$



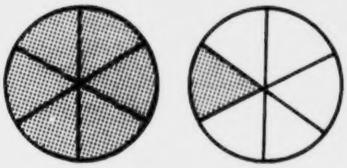
$\frac{5}{3} = 1\frac{2}{3}$



$\frac{11}{8} = 1\frac{3}{8}$



$\frac{8}{5} = 1\frac{3}{5}$



$\frac{7}{6} = 1\frac{1}{6}$

P.O. 5.06.01.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

I. Find equivalent fractions in higher terms.

ⓐ $\frac{1}{2}\ \frac{\times 3}{\times 3} = \boxed{\frac{3}{6}}$ $\quad \frac{1}{2} = \boxed{\frac{3}{6}}$

ⓑ $\frac{3}{5}\ \frac{\times 2}{\times 2} = \boxed{\frac{6}{10}}$ $\quad \frac{3}{5} = \boxed{\frac{6}{10}}$

ⓒ $\frac{2}{3}\ \frac{\times 5}{\times 5} = \boxed{\frac{10}{15}}$ $\quad \frac{2}{3} = \boxed{\frac{10}{15}}$

ⓓ $\frac{4}{7}\ \frac{\times 2}{\times 2} = \boxed{\frac{8}{14}}$ $\quad \frac{4}{7} = \boxed{\frac{8}{14}}$

ⓔ $\frac{3}{4}\ \frac{\times 4}{\times 4} = \boxed{\frac{12}{16}}$ $\quad \frac{3}{4} = \boxed{\frac{12}{16}}$

II. Write the correct numerator or denominator to complete each pair of equivalent fractions.

ⓐ $\frac{1}{3} = \frac{\boxed{2}}{6}$

ⓑ $\frac{4}{5} = \frac{8}{\boxed{10}}$

ⓒ $\frac{1}{4} = \frac{3}{\boxed{12}}$

ⓓ $\frac{3}{4} = \frac{\boxed{12}}{16}$

ⓔ $\frac{2}{8} = \frac{6}{\boxed{24}}$

III. Find equivalent fractions in lower terms.

ⓐ $\frac{6}{9}\ \frac{\div 3}{\div 3} = \boxed{\frac{2}{3}}$ $\quad \frac{6}{9} = \boxed{\frac{2}{3}}$

ⓑ $\frac{10}{15}\ \frac{\div 5}{\div 5} = \boxed{\frac{2}{3}}$ $\quad \frac{10}{15} = \boxed{\frac{2}{3}}$

ⓒ $\frac{12}{24}\ \frac{\div 2}{\div 2} = \boxed{\frac{6}{12}}$ $\quad \frac{12}{24} = \boxed{\frac{6}{12}}$

ⓓ $\frac{5}{10}\ \frac{\div 5}{\div 5} = \boxed{\frac{1}{2}}$ $\quad \frac{5}{10} = \boxed{\frac{1}{2}}$

ⓔ $\frac{4}{6}\ \frac{\div 2}{\div 2} = \boxed{\frac{2}{3}}$ $\quad \frac{4}{6} = \boxed{\frac{2}{3}}$

IV. Write the correct numerator or denominator to complete each pair of equivalent fractions.

ⓐ $\frac{5}{10} = \frac{\boxed{1}}{2}$

ⓑ $\frac{4}{10} = \frac{2}{\boxed{5}}$

ⓒ $\frac{3}{6} = \frac{1}{\boxed{2}}$

ⓓ $\frac{8}{12} = \frac{\boxed{2}}{3}$

ⓔ $\frac{10}{20} = \frac{2}{\boxed{4}}$

P.O. **5.06.01.03-.04**

NAME: ______________ **CLASS:** ________ **DATE:** ______________

A. Express the following fractions in simplest form.

① $\frac{10}{20} = \boxed{\frac{1}{2}}$ ② $\frac{5}{10} = \boxed{\frac{1}{2}}$ ③ $\frac{2}{6} = \boxed{\frac{1}{3}}$ ④ $\frac{4}{12} = \boxed{\frac{1}{3}}$

⑤ $\frac{2}{8} = \boxed{\frac{1}{4}}$ ⑥ $\frac{2}{10} = \boxed{\frac{1}{5}}$ ⑦ $\frac{4}{8} = \boxed{\frac{1}{2}}$ ⑧ $\frac{5}{15} = \boxed{\frac{1}{3}}$

⑨ $\frac{6}{18} = \boxed{\frac{1}{3}}$ ⑩ $\frac{8}{10} = \boxed{\frac{4}{5}}$ ⑪ $\frac{6}{14} = \boxed{\frac{3}{7}}$ ⑫ $\frac{4}{10} = \boxed{\frac{2}{5}}$

⑬ $\frac{9}{12} = \boxed{\frac{3}{4}}$ ⑭ $\frac{12}{16} = \boxed{\frac{3}{4}}$ ⑮ $\frac{4}{20} = \boxed{\frac{1}{5}}$ ⑯ $\frac{5}{25} = \boxed{\frac{1}{5}}$

B. Arrange the following sets of fractions in order from the greatest to the least.

① $\left\{\frac{2}{3}, \frac{1}{2}, \frac{1}{4}\right\}$ ② $\left\{\frac{5}{6}, \frac{1}{8}, \frac{3}{5}\right\}$ ③ $\left\{\frac{3}{4}, \frac{1}{5}, \frac{3}{10}\right\}$

$\underline{\frac{2}{3}}$ $\underline{\frac{1}{2}}$ $\underline{\frac{1}{4}}$ $\underline{\frac{5}{6}}$ $\underline{\frac{3}{5}}$ $\underline{\frac{1}{8}}$ $\underline{\frac{3}{4}}$ $\underline{\frac{3}{10}}$ $\underline{\frac{1}{5}}$

Do you remember?

Write in expanded notation.

340,821 = 300,000 + 40,000 + 800 + 20 + 1

513,497 = 500,000 + 10,000 + 3,000 + 400 + 90 + 7

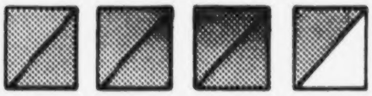
840,502 = 800,000 + 40,000 + 500 + 2

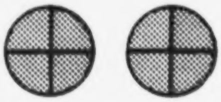
706,216 = 700,000 + 6,000 + 200 + 10 + 6

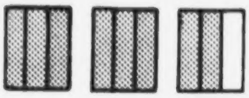
P.O. 5.06.02.01-.02

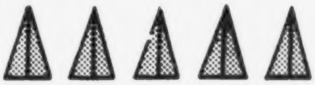
NAME: ______________________ **CLASS:** ________ **DATE:** ____________

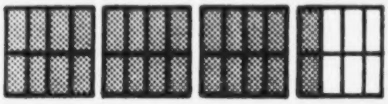
A. Name each shaded amount as a mixed numeral or a whole number and as an improper fraction.

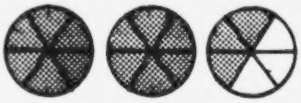
1.

$3\frac{1}{2}$ or $\frac{7}{2}$

2.

2 or $\frac{8}{4}$

3.

$2\frac{2}{3}$ or $\frac{8}{3}$

4.

5 or $\frac{10}{2}$

5.

$3\frac{2}{8}$ or $\frac{26}{8}$

6.

$2\frac{3}{6}$ or $\frac{15}{6}$

B. Rename each mixed numeral as an improper fraction.

1. $4\frac{1}{5} = \frac{21}{5}$
2. $3\frac{2}{3} = \frac{11}{3}$
3. $7\frac{1}{2} = \frac{15}{2}$
4. $5\frac{1}{8} = \frac{41}{8}$
5. $6\frac{3}{8} = \frac{51}{8}$
6. $4\frac{5}{6} = \frac{29}{6}$
7. $2\frac{7}{8} = \frac{23}{8}$
8. $1\frac{1}{3} = \frac{4}{3}$
9. $9\frac{1}{3} = \frac{28}{3}$
10. $3\frac{1}{4} = \frac{13}{4}$
11. $5\frac{1}{2} = \frac{11}{2}$
12. $4\frac{1}{5} = \frac{21}{5}$

C. Rename each improper fraction as a mixed numeral or whole number.

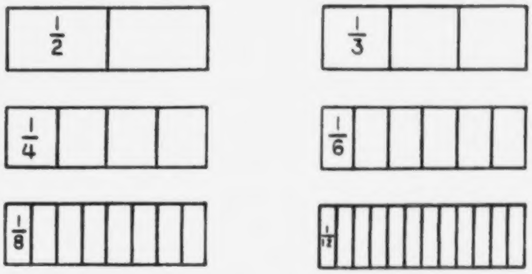
1. $\frac{5}{2} = 2\frac{1}{2}$
2. $\frac{10}{3} = 3\frac{1}{3}$
3. $\frac{12}{5} = 2\frac{2}{5}$
4. $\frac{17}{3} = 5\frac{2}{3}$
5. $\frac{9}{2} = 4\frac{1}{2}$
6. $\frac{27}{5} = 5\frac{2}{5}$
7. $\frac{20}{4} = 5$
8. $\frac{31}{7} = 4\frac{3}{7}$
9. $\frac{7}{3} = 2\frac{1}{3}$
10. $\frac{12}{4} = 3$
11. $\frac{24}{9} = 2\frac{6}{9}$ or $2\frac{2}{3}$
12. $\frac{28}{5} = 5\frac{3}{5}$

SHARPENING YOUR SKILLS

Units 5, 6, 7

Name: ____________________ **Class:** ____________ **Date:** _________

1. Use the pictures below to help you complete each equivalent fraction.



$\frac{1}{2} = \frac{\boxed{4}}{8}$ $\frac{\boxed{2}}{3} = \frac{4}{6}$

$\frac{3}{4} = \frac{6}{\boxed{8}}$ $\frac{8}{12} = \frac{\boxed{2}}{3}$

2. Find the sum or difference.

$\frac{5}{8} + \frac{1}{8} = \boxed{\frac{6}{8}}$ or $\frac{3}{4}$

$\frac{2}{9} + \frac{3}{9} = \boxed{\frac{5}{9}}$

$\frac{8}{10} - \frac{1}{10} = \boxed{\frac{7}{10}}$

3. Find an equivalent fraction.

$\frac{3}{4} =$ ________

$\frac{3}{8}$ ⓐ $\frac{6}{12}$ ⓑ $\frac{9}{12}$ ● $\frac{6}{7}$ ⓓ

4. Which fraction expresses $\frac{5}{10}$ in lowest terms?

$\frac{1}{10}$ ⓔ $\frac{1}{2}$ ● $\frac{2}{7}$ ⓖ $\frac{1}{5}$ ⓗ

5. By what number would we divide the numerator and the denominator to rename $\frac{6}{9}$ in lowest terms?

6 ⓐ 9 ⓑ 2 ⓒ 3 ●

6. Arrange each set of fractions from the least to the greatest.

$\frac{5}{8}, \frac{3}{4}, \frac{1}{2}$ $\boxed{\frac{1}{2} < \frac{5}{8} < \frac{3}{4}}$

$\frac{2}{3}, \frac{2}{5}, \frac{1}{4}$ $\boxed{\frac{1}{4} < \frac{2}{5} < \frac{2}{3}}$

7. Rename each improper fraction as a mixed numeral or whole number.

$\frac{9}{2} = \boxed{4\frac{1}{2}}$ $\frac{16}{4} = \boxed{4}$

$\frac{8}{3} = \boxed{2\frac{2}{3}}$ $\frac{18}{5} = \boxed{3\frac{3}{5}}$

8. Rename each mixed numeral as an improper fraction.

$2\frac{1}{8} = \boxed{\frac{17}{8}}$ $4\frac{2}{3} = \boxed{\frac{14}{3}}$ $1\frac{1}{10} = \boxed{\frac{11}{10}}$

P.O. 5.06.03.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Write and solve a multiplication example for each group of fractions below. Reduce the answers to lowest terms.

① $\frac{2}{5} + \frac{2}{5}$

$2 \times \frac{2}{5} = \frac{4}{5}$

② $\frac{1}{12} + \frac{1}{12} + \frac{1}{12}$

$3 \times \frac{1}{12} = \frac{3}{12} = \frac{1}{4}$

③ $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$

$5 \times \frac{1}{2} = \frac{5}{2} = 2\frac{1}{2}$

④ $\frac{3}{8} + \frac{3}{8} + \frac{3}{8}$

$3 \times \frac{3}{8} = \frac{9}{8} = 1\frac{1}{8}$

⑤ $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$

$6 \times \frac{1}{3} = \frac{6}{3} = 2$

⑥ $\frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9}$

$4 \times \frac{2}{9} = \frac{8}{9}$

B. Complete the examples below.

① $3 \times \frac{1}{8} = \boxed{\frac{3}{8}}$

② $5 \times \frac{2}{3} = \boxed{\frac{10}{3}}$ or $3\frac{1}{3}$

③ $2 \times \frac{1}{2} = \boxed{\frac{2}{2}}$ or 1

④ $7 \times \frac{1}{4} = \boxed{\frac{7}{4}}$ or $1\frac{3}{4}$

⑤ $10 \times \frac{3}{5} = \boxed{\frac{30}{5}}$ or 6

⑥ $8 \times \frac{2}{5} = \boxed{\frac{16}{5}}$ or $3\frac{1}{5}$

⑦ $5 \times \frac{1}{4} = \boxed{\frac{5}{4}}$ or $1\frac{1}{4}$

⑧ $2 \times \frac{3}{5} = \boxed{\frac{6}{5}}$ or $1\frac{1}{5}$

⑨ $3 \times \frac{2}{7} = \boxed{\frac{6}{7}}$

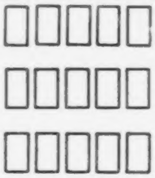
C. Use the pictures to solve each example.

①

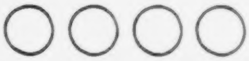
$\frac{1}{2}$ of 8 = $\boxed{4}$

②

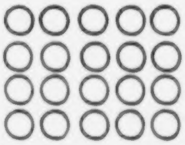
$\frac{2}{3}$ of 9 = $\boxed{6}$

③


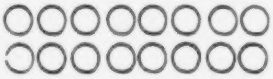
$\frac{4}{5}$ of 15 = $\boxed{12}$

④


$\frac{1}{2}$ of 4 = $\boxed{2}$

⑤


$\frac{2}{5}$ of 20 = $\boxed{8}$

⑥


$\frac{3}{8}$ of 16 = $\boxed{6}$

P.O. 5.06.03.04-.05

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. **Complete the multiplication examples below. Reduce the products to lowest terms.**

① $\frac{1}{2} \times 10 = \boxed{5}$ So, $\frac{1}{2} \times \frac{10}{11} = \boxed{\frac{5}{11}}$

② $\frac{1}{3} \times 9 = \boxed{3}$ So, $\frac{1}{3} \times \frac{9}{17} = \boxed{\frac{3}{17}}$

③ $\frac{1}{5} \times 10 = \boxed{2}$ So, $\frac{1}{5} \times \frac{10}{19} = \boxed{\frac{2}{19}}$

④ $\frac{1}{4} \times 8 = \boxed{2}$ So, $\frac{1}{4} \times \frac{8}{12} = \boxed{\frac{2}{12} = \frac{1}{6}}$

⑤ $\frac{1}{10} \times 20 = \boxed{2}$ So, $\frac{1}{10} \times \frac{20}{17} = \boxed{\frac{2}{17}}$

⑥ $\frac{1}{6} \times 30 = \boxed{5}$ So, $\frac{1}{6} \times \frac{30}{60} = \boxed{\frac{5}{60}} = \frac{1}{12}$

⑦ $\frac{1}{5} \times 25 = \boxed{5}$ So, $\frac{1}{5} \times \frac{25}{29} = \boxed{\frac{5}{29}}$

⑧ $\frac{1}{2} \times 12 = \boxed{6}$ So, $\frac{1}{2} \times \frac{12}{5} = \boxed{\frac{6}{5} = 1\frac{1}{5}}$

⑨ $\frac{1}{3} \times 18 = \boxed{6}$ So, $\frac{1}{3} \times \frac{18}{21} = \boxed{\frac{6}{21} = \frac{2}{7}}$

⑩ $\frac{1}{8} \times 16 = \boxed{2}$ So, $\frac{1}{8} \times \frac{16}{5} = \boxed{\frac{2}{5}}$

B. **Multiply. Reduce the products to lowest terms.**

① $\frac{2}{3} \times \frac{3}{5} = 2 \times \frac{1}{3}$ of $\frac{3}{5} = 2 \times \frac{1}{5} = \frac{2}{5}$

② $\frac{3}{5} \times \frac{10}{11} = 3 \times \frac{1}{5}$ of $\frac{10}{11} = 3 \times \frac{2}{11} = \frac{6}{11}$

③ $\frac{2}{9} \times \frac{18}{20} = 2 \times \frac{1}{9}$ of $\frac{18}{20} = 2 \times \frac{2}{20} = \frac{4}{20} = \frac{1}{5}$

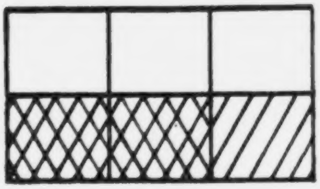
④ $\frac{5}{7} \times \frac{7}{10} = 5 \times \frac{1}{7}$ of $\frac{7}{10} = 5 \times \frac{1}{10} = \frac{5}{10} = \frac{1}{2}$

⑤ $\frac{3}{4} \times \frac{12}{17} = 3 \times \frac{1}{4}$ of $\frac{12}{17} = 3 \times \frac{3}{17} = \frac{9}{17}$

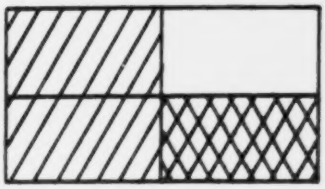
P.O. 5.06.03.06-.08

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

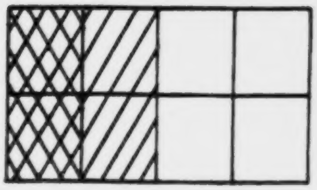
Write and solve the number sentence represented by each picture.

①


$\frac{2}{3} \times \frac{1}{2} = \frac{2}{6} = \frac{1}{3}$

②


$\frac{1}{3} \times \frac{3}{4} = \frac{1}{4}$

③


$\frac{2}{4} \times \frac{4}{8} = \frac{1}{4}$

Multiply. Reduce your answers to lowest terms.

④ $\frac{1}{5} \times \frac{1}{2} = \boxed{\frac{1}{10}}$

⑤ $\frac{3}{4} \times \frac{1}{8} = \boxed{\frac{3}{32}}$

⑥ $\frac{1}{3} \times \frac{1}{5} = \boxed{\frac{1}{15}}$

⑦ $\frac{2}{3} \times \frac{3}{5} = \boxed{\frac{2}{5}}$

⑧ $\frac{5}{8} \times \frac{1}{2} = \boxed{\frac{5}{16}}$

⑨ $\frac{4}{5} \times \frac{1}{3} = \boxed{\frac{4}{15}}$

⑩ $\frac{5}{6} \times \frac{2}{3} = \boxed{}$

⑪ $\frac{3}{8} \times \frac{2}{3} = \boxed{\frac{1}{4}}$

⑫ $\frac{1}{4} \times \frac{2}{9} = \boxed{\frac{1}{18}}$

Solve the problems.

⑬ Mrs. Gold drives 60 miles to work each day. She stops for breakfast after driving $\frac{1}{3}$ of the way. How many miles does she drive before breakfast? 20

⑭ Mrs. Gold supervises 80 construction workers. $\frac{1}{2}$ of them are women. $\frac{1}{4}$ of the women were hired this year. How many women were hired this year? 10

Do you remember?

Round these numbers to the nearest 10,000.

45,721 rounds to 50,000

73,826 rounds to 70,000

52,063 rounds to 50,000

748,219 rounds to 750,000

688,385 rounds to 690,000

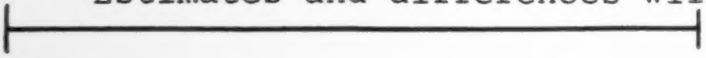
457,201 rounds to 460,000

P.O. 5.10.01.01 & .03

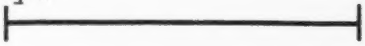
NAME: ______________________ **CLASS:** _____ **DATE:** __________

Estimate the length of each line segment below, to the nearest inch. Then measure each actual length to the nearest inch. Calculate the differences between the estimates and the actual lengths.

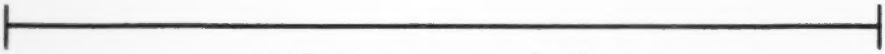
Estimates and differences will vary.



estimate: _____ inches
actual: 4 inches
difference: _____ inches



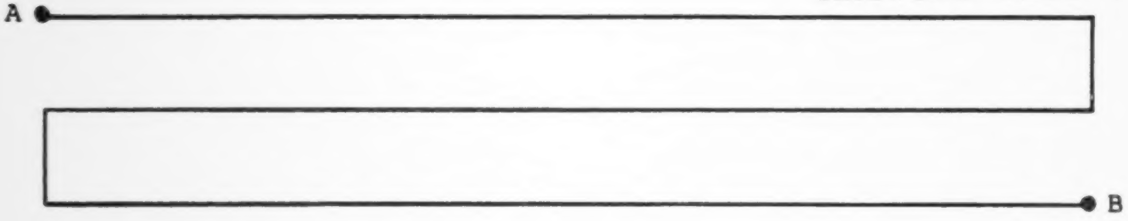
estimate: _____ inches
actual: 2 inches
difference: _____ inches



estimate: _____ inches
actual: 5 inches
difference: _____ inches

Estimate the length from A to B, to the nearest foot. Measure to find the actual length. Subtract to find the difference.

Answers will vary.



estimate: _____ actual: 1ft 6in. difference: _____

Estimate the height of a friend to the nearest foot. Then measure to find your friend's actual height.

Estimate the length of your classroom to the nearest yard. Measure to find the actual length.

Answers will vary.

estimated height: _____ feet
actual height: _____ feet
difference: _____ feet

estimated length: _____ yards
actual length: _____ yards
difference: _____ yards

P.O. 5.10.01.02-.03

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

Use your ruler to measure each line segment below to the nearest $\frac{1}{8}$ inch.

$\frac{7}{8}$ in.

$1\frac{3}{8}$ in.

$3\frac{6}{8}$ in.

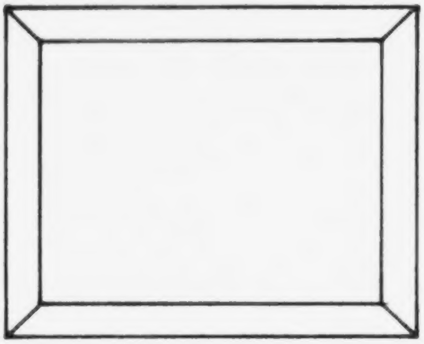
2 in.

$1\frac{1}{8}$ in.

$2\frac{4}{8}$ in.

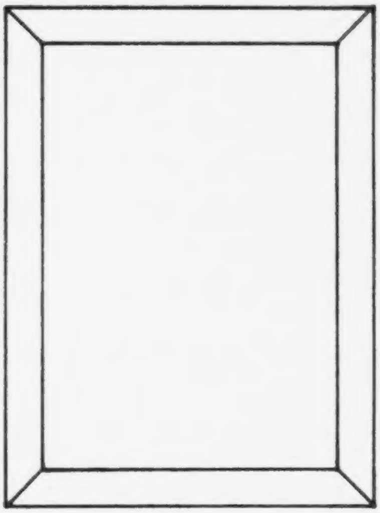
Measure the outside lengths and widths of the picture frames below.

Frame A



length = $2\frac{1}{4}$ in. or $2\frac{2}{8}$ in.
width = $1\frac{7}{8}$ in.

Frame B



length = 2 in.
width = $2\frac{6}{8}$ in. or $2\frac{3}{4}$ in.

CHALLENGE!

What is the total distance around each frame?

Frame A: $8\frac{2}{8}$ in. or $8\frac{1}{4}$ in.
Frame B: $9\frac{1}{2}$ in.

P.O. 5.07.01.01-.02

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

What is the value of the underlined digit?

	WORD FORM	**NUMERAL FORM**
32.167	six hundredths	0.06
2.84	four hundredths	0.04
69.016	six thousandths	0.006
938.902	nine tenths	0.9
821.493	three thousandths	0.003

Build a Number

6 is in the thousandths place
2 is in the thousands place
4 is in the tenths place
9 is in the tens place
1 is in the units place

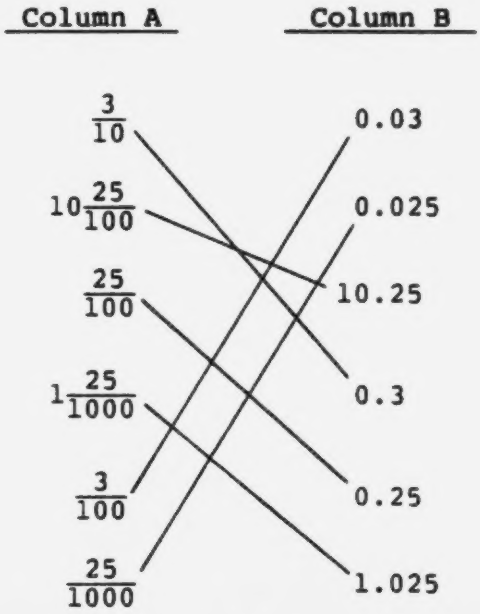
2 0 9 1 . 4 0 6

Build a Number

2 is in the hundredths place
4 is in the hundreds place
5 is in the thousandths place
8 is in the thousands place
3 is in the tenths place

8 4 0 0 . 3 2 5

Draw a line from each fraction in Column A to its decimal equivalent in Column B.



Column A	**Column B**
$\frac{3}{10}$	0.03
$10\frac{25}{100}$	0.025
$\frac{25}{100}$	10.25
$1\frac{25}{1000}$	0.3
$\frac{3}{100}$	0.25
$\frac{25}{1000}$	1.025

Complete the chart below.

Decimal	**Fraction**
0.005	$\frac{5}{1000}$
0.007	$\frac{7}{1000}$
0.1	$\frac{1}{10}$
0.15	$\frac{15}{100}$
2.09	$2\frac{9}{100}$
13.04	$13\frac{4}{100}$

P.O. 5.07.01.02-.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

A. Write each decimal below as a fraction.

① 0.4 = $\frac{4}{10}$

② 0.26 = $\frac{26}{100}$

③ 0.08 = $\frac{8}{100}$

④ 0.136 = $\frac{136}{1000}$

⑤ 0.45 = $\frac{45}{100}$

⑥ 0.1 = $\frac{1}{10}$

⑦ 0.004 = $\frac{4}{1000}$

⑧ 0.123 = $\frac{123}{1000}$

⑨ 0.2 = $\frac{2}{10}$

⑩ 0.017 = $\frac{17}{1000}$

B. Write each fraction below as a decimal.

① $\frac{3}{10}$ = 0.3

② $\frac{42}{100}$ = 0.42

③ $\frac{9}{100}$ = 0.09

④ $\frac{5}{10}$ = 0.5

⑤ $\frac{238}{1000}$ = 0.238

⑥ $\frac{18}{1000}$ = 0.018

⑦ $\frac{25}{100}$ = 0.25

⑧ $\frac{6}{100}$ = 0.06

⑨ $\frac{99}{100}$ = 0.99

⑩ $\frac{458}{1000}$ = 0.458

C. Compare each pair of decimals by writing >, <, or = in the circles.

① 0.5 > 0.2

② 1.2 = 1.20

③ 2.85 < 3.01

④ 4.06 < 4.60

⑤ 3.9 > 3.75

⑥ 4.2 < 5.2

⑦ 0.81 > 0.081

⑧ 3.45 < 3.59

⑨ 2.8 > 2.5

⑩ 0.50 = 0.5

⑪ 6.3 > 0.63

⑫ 5.42 < 7.42

⑬ 3.08 > 2.08

⑭ 0.19 < 1.09

CHALLENGE!

The shortest known snake is the thread snake which has a maximum recorded length of 4.7 inches. The longest snake is a python which is usually 20 feet or longer. In 1912 a python was found which measured almost 40 feet. How much longer was the longest snake than the shortest snake? about 39 feet 7.3 inches

SHARPENING YOUR SKILLS

Units 8, 9, 10

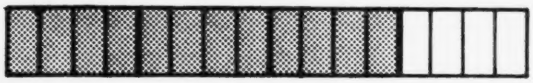
Name: ______________________ **Class:** _____________ **Date:** _________

1. Find the product. Rename it in lowest terms.

$$10 \times \frac{3}{5} = \boxed{}$$

30	6	15	5
ⓐ	●	ⓒ	ⓓ

2.



The picture above shows __________.

ⓔ $\frac{3}{4} \times 12 = 16$

ⓕ $\frac{1}{4} \times 16 = 12$

● $\frac{3}{4} \times 16 = 12$

ⓗ $\frac{1}{2} \times 16 = 12$

3.

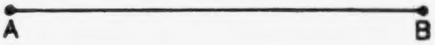
$\frac{1}{3} \times \frac{4}{5} = \boxed{\frac{4}{15}}$ $\frac{3}{8} \times \frac{1}{3} = \boxed{\frac{3}{24} = \frac{1}{8}}$

$\frac{5}{6} \times \frac{3}{5} = \boxed{\frac{15}{30} = \frac{1}{2}}$ $\frac{2}{9} \times \frac{1}{2} = \boxed{\frac{2}{18} = \frac{1}{9}}$

4. Paul wants $\frac{1}{2}$ of $\frac{1}{2}$ pound of salami. What part of a pound does Paul want?

Paul wants $\frac{1}{4}$ of a pound.

5. $\overline{AB}$ measures __________ to the nearest $\frac{1}{8}$ inch.



ⓐ $2\frac{5}{8}$ inches   ⓒ $1\frac{7}{8}$ inches

ⓑ $2\frac{1}{8}$ inches   ● $2\frac{3}{8}$ inches

6. Find the product and express it as a decimal.

$$\frac{1}{2} \times \frac{3}{5} = \boxed{\frac{3}{10}}$$

The product, expressed as a decimal is 0.3.

7. In the numeral 16.038, the 3 is found in the __________ place.

ⓔ tenths   ⓖ tens

ⓕ thousandths   ● hundredths

8. Write >, <, or = for each number sentence below.

$0.5 \boxed{<} 2.1$ $0.4 \boxed{=} 0.40$

$6.29 \boxed{<} 6.40$ $5.31 \boxed{>} 5.301$

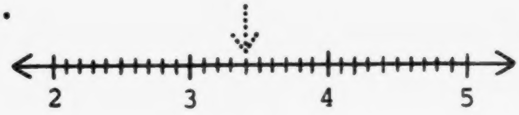
$5.0 \boxed{<} 5.001$ $8.208 \boxed{<} 8.211$

P.O. 5.07.02.01

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

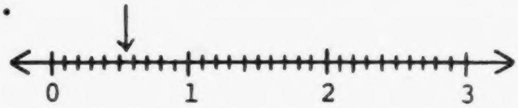
Locate each decimal on the number line. Draw an arrow to show its location. Round the decimal to the nearest whole number.

1.



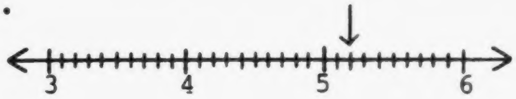
3.42 rounds to 3

2.



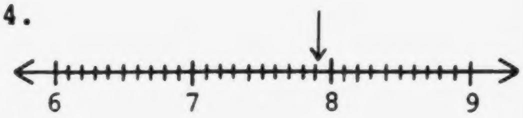
0.57 rounds to 1

3.



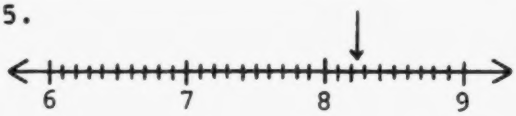
5.2 rounds to 5

4.



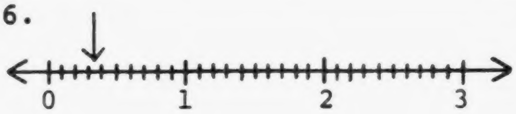
7.923 rounds to 8

5.



8.29 rounds to 8

6.



0.346 rounds to 0

Round each decimal to the nearest whole number.

⑦ 6.65 rounds to 7

⑧ 3.259 rounds to 3

⑨ 0.487 rounds to 0

⑩ 1.62 rounds to 2

⑪ 5.08 rounds to 5

⑫ 4.99 rounds to 5

⑬ 0.865 rounds to 1

⑭ 7.46 rounds to 7

Do you remember?

Rename each fraction as an equivalent in higher terms.

$\frac{3}{8} = \frac{6}{\boxed{16}}$ $\frac{3}{4} = \frac{\boxed{6}}{8}$ $\frac{2}{3} = \frac{10}{\boxed{15}}$ $\frac{4}{5} = \frac{12}{\boxed{15}}$

P.O. 5.07.02.02

NAME: ______________________ **CLASS:** _______ **DATE:** __________

Circle the number which shows each decimal rounded to the nearest tenth.

1. 6.72 rounds to 6.6 6.72 [✓ 6.7] 6.8
2. 3.45 rounds to [✓ 3.5] 3.4 3.45 3.55
3. 7.26 rounds to 7.36 [✓ 7.3] 7.2 7.26
4. 6.94 rounds to [✓ 6.9] 6.8 6.94 7.94
5. 6.821 rounds to 6.83 6.9 6.721 [✓ 6.8]
6. 1.55 rounds to 1.56 1.5 1.45 [✓ 1.6]
7. 0.73 rounds to 0.73 [✓ 0.7] 0.8 0.74
8. 2.14 rounds to 2.2 2.14 [✓ 2.1] 1.1
9. 0.39 rounds to [✓ 0.4] 0.49 0.3 0.38
10. 4.356 rounds to 4.3 4.34 4.356 [✓ 4.4]

Write the decimals below in order from least to greatest. Then round them to the nearest tenth.

	order				order		
2.51	1.45	rounds to	1.5	6.72	6.274	rounds to	6.3
2.08	2.08	rounds to	2.1	7.69	6.72	rounds to	6.7
4.733	2.51	rounds to	2.5	6.274	7.099	rounds to	7.1
1.45	4.733	rounds to	4.7	7.099	7.69	rounds to	7.7
4.751	4.751	rounds to	4.8	8.31	8.31	rounds to	8.3

CHALLENGE!

I am a 3-digit number.
My hundredths digit is twice my ones digit.
My tenths digit is half my hundredths digit plus 1 more.
My ones digit is the quotient of 8 ÷ 2.
What am I? 4.58

P.O. 5.07.02.01-.03

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

What does a puppy take when he's sick?

To find out, round each decimal to the nearest whole number, nearest tenth, and nearest hundredth. Then look at the answers at the bottom of the page. Write the correct letter above the answers. Not all the answers will be used.

Decimal	**Nearest Whole number**	**Nearest Tenth**	**Nearest Hundredth**
8.768	X 9	T 8.8	A 8.77
5.921	P 6	Z 5.9	O 5.92
0.857	E 1	J 0.9	C 0.86
1.256	K 1	U 1.3	V 1.26
3.624	Q 4	R 3.6	L 3.62
8.255	H 8	I 8.3	B 8.26
1.541	W 2	D 1.5	F 1.54
3.234	M 3	G 3.2	S 3.23

P	U	P	T	O		B	I	S	M	O	L
6	1.3	6	8.8	5.92		8.26	8.3	3.23	3	5.92	3.62

Do you remember?

Change each improper fraction to a mixed numeral or a whole number.

$\frac{7}{4} = \boxed{1\frac{3}{4}}$ $\frac{11}{3} = \boxed{3\frac{2}{3}}$ $\frac{15}{3} = \boxed{5}$ $\frac{19}{7} = \boxed{2\frac{5}{7}}$

P.O.5.07.03.01-.03

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Round each decimal to the nearest whole number to estimate each sum or difference. Then find the actual sum or difference. Check your answers on a separate paper.

1.

3.819	4
+2.140	+2
5.959	6
actual sum	estimated sum

2.

7.3	7
-2.84	-3
4.46	4
actual difference	estimated difference

3.

9.89	10
-4.632	-5
5.258	5
actual difference	estimated difference

4.

7.302	7
+6.731	+7
14.003	14
actual sum	estimated sum

5.

10.42	10
+ 9.614	+10
20.034	20
actual sum	estimated sum

6.

4.38	4
-1.27	-1
3.11	3
actual difference	estimated difference

7.

43.60	44
25.382	25
125.267	125
+ 28.1	+28
222.349	222
actual sum	estimated sum

8.

39.41	39
40.621	41
53.888	54
+50.212	+50
184.131	184
actual sum	estimated sum

9.

100.6	101
200.73	201
150.21	150
+350.222	+350
801.762	802
actual sum	estimated sum

Solve the problem below.

Daisy went on a bicycle trip for 5 days. She rode 32.5 km on Monday, 38.65 km on Tuesday, 40.01 km on Wednesday, 35.75 km on Thursday, and 41.6 km on Friday. Estimate the distance she pedaled during the 5 days.

190 km
estimated distance

P.O.5.07.03.03

NAME: ____________ **CLASS:** ______ **DATE:** ____________

Use the chart to solve the problems below.

ANDY'S SUPERMARKET

Apples	$ .98 lb	Detergent	$4.98	Sugar	$2.89
Oranges	1.02 lb	Napkins	1.49	Coffee	4.25
Peaches	1.75 lb	Soap	.89	$\frac{1}{2}$ gal juice	2.75

1. Tanya bought 2 pounds of apples and 1 pound of peaches. Estimate the cost of her purchase.

$4.00

2. Carla bought 3 half gallons of juice. Estimate the cost of the juice and then find the actual cost.

$9.00 (estimate) $8.25 (actual)

3. Sal will do the laundry. What will he buy? detergent If he buys 2 of these, about how much money will he spend? $10.00

(Soap and $2.00 are also acceptable answers.)

4. David bought 7 of the least expensive items on the chart. About how much did he spend? $7.00 What was the actual cost?

$6.23

5. About how much more does the coffee cost than the sugar?

$1.00

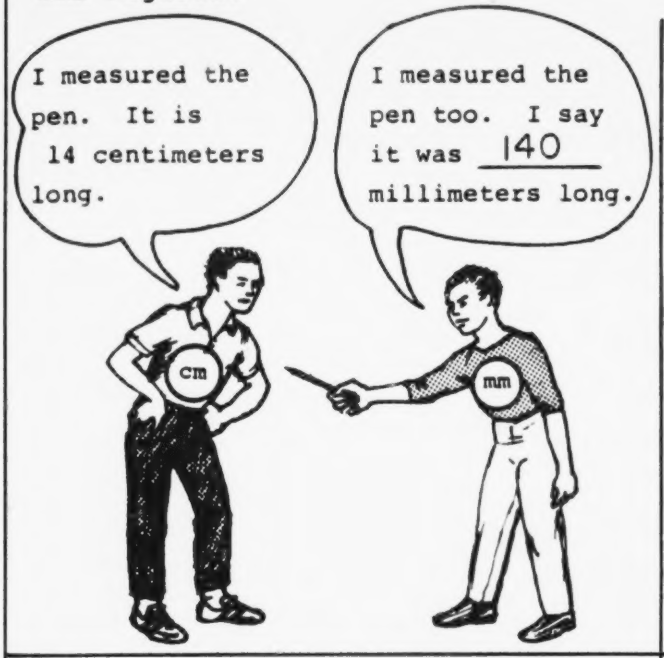
6. To the nearest dollar, what is the estimated cost of all the items on the chart?

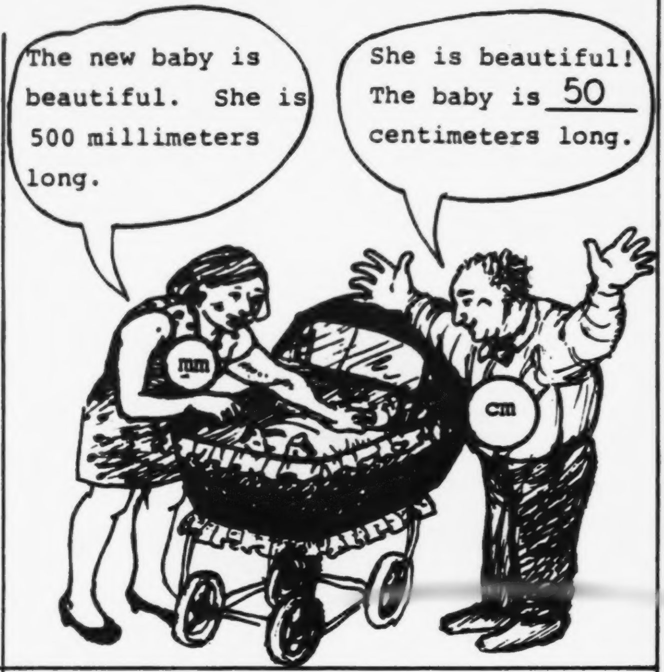
$21.00

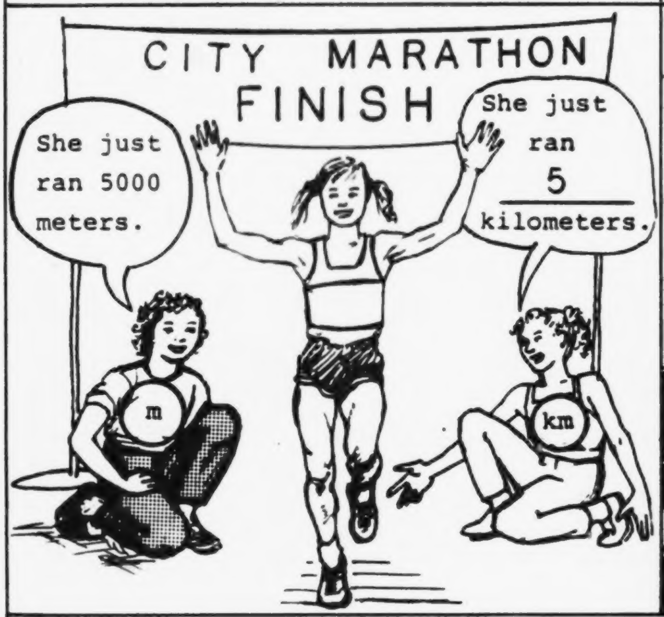
P.O. 5.10.02.01 & .03

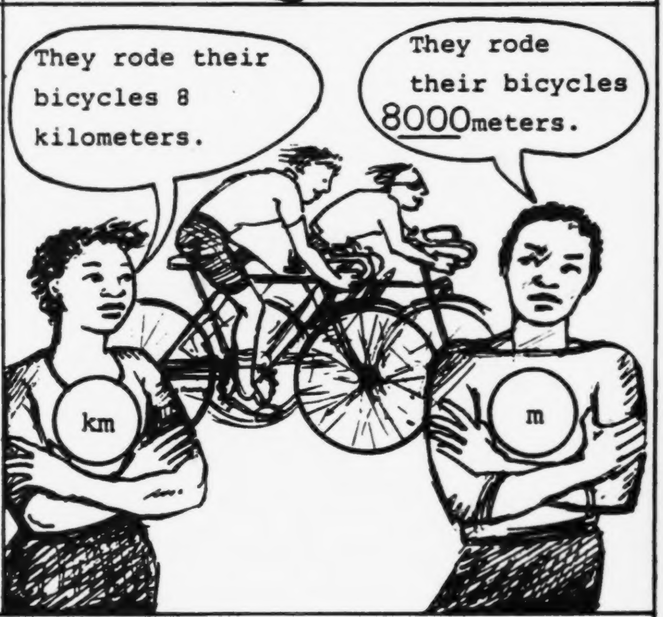
NAME: ______________________ **CLASS:** ______ **DATE:** ______________

Why argue? Make each one correct by filling in the missing answers in the balloons. You will know the unit of measurement by the buttons on the figures.


I measured the pen. It is 14 centimeters long.
I measured the pen too. I say it was 140 millimeters long.
cm
mm


The new baby is beautiful. She is 500 millimeters long.
She is beautiful! The baby is 50 centimeters long.
mm
cm


CITY MARATHON FINISH
She just ran 5000 meters.
She just ran 5 kilometers.
m
km


They rode their bicycles 8 kilometers.
They rode their bicycles 8000meters.
km
m

Do you remember?

fraction	$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{5}{10}$	$\frac{6}{10}$	$\frac{7}{10}$	$\frac{8}{10}$	$\frac{9}{10}$
decimal	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9

P.O. 5.10.02.02

NAME: ____________________________ **CLASS:** ________ **DATE:** _______________

Decide which unit, millimeter, centimeter, or meter, would be best to measure each item below. Estimate the length of each item and then use your metric rulers to find the actual length. Complete the chart.

	OBJECT	**UNIT**	**ESTIMATED LENGTH**	**ACTUAL LENGTH**	**DIFFERENCE**
1.	tip of a ball point pen	mm	2 mm	1 mm	1 mm
2.	distance of floor to door knob				
3.	height of a teacher		Answers		
4.	length of a pencil			will	
5.	thickness of a quarter				vary.
6.	height of a door				
7.	thickness of a door				
8.	height of this page				
9.	width of a classroom				
10.	length of the chalkboard				

SHARPENING YOUR SKILLS

Units 11, 12, 13

Name: ____________________ **Class:** ____________ **Date:** ________

1. Round each numeral below to the nearest whole number.

4.70 rounds to 5

17.5 rounds to 18

8.142 rounds to 8

6.35 rounds to 6

2. Round each numeral below to the nearest tenth.

8.276 rounds to 8.3

3.453 rounds to 3.5

12.980 rounds to 13.0

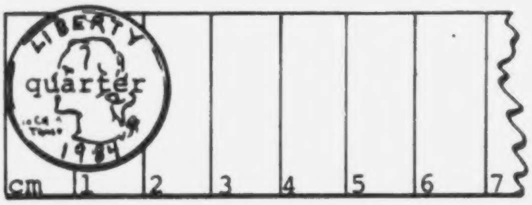
3. Write an estimate. Then find the exact sum.

estimate	
7	6.852
+ 8	+7.687
15	14.539

4.

	check
13.265	4.506
- 8.759	+ 8.759
4.506	13.265

5.



A quarter is about $2\frac{1}{2}$ cm in diameter.

6. Find the difference and use it to discover the missing name below.

	check
9.257	7.189
-2.068	+ 2.068
7.189	9.257

ⓐ 11.325 Hulk Hogan

● 7.189 Neil Armstrong

ⓒ 7.211 Chris Evert

ⓓ 5.136 Steve Austin

I was the first person to walk on the moon. My name is Neil Armstrong.

7. 14.603 - 7.111 = ☐

ⓐ 13.412 ⓒ 13.513

ⓑ 7.512 ● 7.492

8. Many road races are 10,000 m. How many kilometers long are they? They are 10 kilometers long.

9.

1 m = 1000 mm

4 m = 400 cm

P.O. 5.14.05.01&.04

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Find the products.

① $\begin{array}{r} 6\ 4 \\ \underline{x\ \ 7} \\ 448 \end{array}$

② $\begin{array}{r} 8\ 5 \\ \underline{x\ \ 8} \\ 680 \end{array}$

③ $\begin{array}{r} 3\ 9\ 7 \\ \underline{x\ \ \ \ 4} \\ 1588 \end{array}$

④ $\begin{array}{r} 5\ 0\ 8 \\ \underline{x\ \ \ \ 6} \\ 3048 \end{array}$

⑤ $\begin{array}{r} 3\ 6 \\ \underline{x\ \ 6} \\ 216 \end{array}$

⑥ $\begin{array}{r} 2\ 4\ 3 \\ \underline{x\ \ \ \ 7} \\ 1701 \end{array}$

⑦ $\begin{array}{r} 1\ 0\ 6 \\ \underline{x\ \ \ \ 9} \\ 954 \end{array}$

⑧ $\begin{array}{r} 7\ 4 \\ \underline{x\ \ 8} \\ 592 \end{array}$

Use the chart to help you answer questions 9-13.

Number of Heartbeats Per Minute for Students In Class 5-101

Kenneth	82	Alan	84
Jessica	79	David	77
Steven	68	Ann	88
Barry	83	Jeremy	90

9. How many times does Ann's heart beat in 6 minutes?

528 times

10. How many more times does Jessica's heart beat in 3 minutes than Steven's heart?

33 times

11. How many times does Kenneth's heart beat in 8 minutes?

656 times

12. How many times does David's heart beat in 2 minutes?

154 times

13. How many fewer heartbeats does Barry have than Jeremy in 9 minutes?

63 fewer heartbeats

P.O. **5.14.05.02-.03**

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. **Use the distributive property to solve the following multiplication examples.**

①

34 x 67 = (30 + 4) x 67
= (30x67) + (4x67)
= 2010 + 268
= 2278

②

18 x 59 = (10+8) x 59
= (10x59) + (8x59)
= 590 + 472
= 1062

③

11 x 42 = (10 + 1) x 42
= (10x42) + (1 x42)
= 420 + 42
= 462

④

56 x 94 = (50+6) x 94
= (50x94) + (6x94)
= 4700 + 564
= 5264

B. **Find the products.**

① $\begin{array}{r} 72 \\ \underline{\times 43} \\ 3096 \end{array}$

② $\begin{array}{r} 128 \\ \underline{\times 17} \\ 2176 \end{array}$

③ $\begin{array}{r} 86 \\ \underline{\times 52} \\ 4472 \end{array}$

④ $\begin{array}{r} 275 \\ \underline{\times 21} \\ 5775 \end{array}$

⑤ $\begin{array}{r} 406 \\ \underline{\times 18} \\ 7308 \end{array}$

⑥ $\begin{array}{r} 324 \\ \underline{\times 25} \\ 8100 \end{array}$

⑦ $\begin{array}{r} 66 \\ \underline{\times 29} \\ 1914 \end{array}$

⑧ $\begin{array}{r} 39 \\ \underline{\times 48} \\ 1872 \end{array}$

⑨ $\begin{array}{r} 34 \\ \underline{\times 17} \\ 578 \end{array}$

⑩ $\begin{array}{r} 480 \\ \underline{\times 48} \\ 23{,}040 \end{array}$

⑪ $\begin{array}{r} 397 \\ \underline{\times 36} \\ 14{,}292 \end{array}$

⑫ $\begin{array}{r} 79 \\ \underline{\times 85} \\ 6715 \end{array}$

P.O. **5.14.05.03-.04**

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Solve each example.

① 78
x54
4212

② 39
x61
2379

③ 375
x 28
10,500

④ 507
x 82
41,574

B. Mixed Problem Solving

Use the chart to solve the problems below.

PART-TIME WORKERS

Name	Number of Days Worked Per Year	Dollars Earned Per Day
Max	135	$ 18
Sal	213	$ 26
Carmen	84	$ 32
Sandra	221	$ 28
Pat	67	$ 45

⑤ What was Pat's annual salary? $3015

⑦ Sandra and Sal are married. What was their combined annual salary? $11,726

⑥ How many days did Carmen, Sandra, and Pat work in all? 372

⑧ How much more did Carmen earn per day than Max? $14

How much more did Carmen earn per year than Max? $258

Use the chart above to create and solve a problem.

Answers will vary.

P.O.5.04.01.01-.02

NAME: ______________________ **CLASS:** _______ **DATE:** ___________

Find the product of each example below without showing a partial product of zeros.

① 4000 × 20 = 80,000

② 3000 × 40 = 120,000

③ 7000 × 20 = 140,000

④ 6000 × 50 = 300,000

⑤ 9000 × 30 = 270,000

⑥ 8000 × 10 = 80,000

⑦ 2000 × 80 = 160,000

⑧ 5000 × 60 = 300,000

Round the factors below and estimate the products.

⑨ 3681 rounds to 4000
x 31 rounds to x 30
estimated product 120,000

⑩ 7036 rounds to 7000
x 87 rounds to x 90
estimated product 630,000

⑪ 2613 rounds to 3000
x 41 rounds to x 40
estimated product 120,000

⑫ 8993 rounds to 9000
x 93 rounds to x 90
estimated product 810,000

Do you remember?

A compact disc player costs $479.95. It is on sale today for $388.99. How much will you save if you buy the compact disc player today?

$90.96

solve

How much will 2 compact disc players cost at the sale price?

$777.98

P.O.5.04.01.02

NAME: ______________________ **CLASS:** ________ **DATE:** __________

Round each factor to its greatest place value to estimate the products.

① 3682 rounds to 4000
x 57 rounds to x 60
estimated product 240,000

② 2983 rounds to 3000
x 44 rounds to x 40
estimated product 120,000

③ 6329 rounds to 6000
x 27 rounds to x 30
estimated product 180,000

④ 7142 rounds to 7000
x 63 rounds to x 60
estimated product 420,000

⑤ 4981 rounds to 5000
x 27 rounds to x 30
estimated product 150,000

⑥ 9832 rounds to 10,000
x 83 rounds to x 80
estimated product 800,000

⑦ 8216 rounds to 8000
x 93 rounds to x 90
estimated product 720,000

⑧ 2839 rounds to 3000
x 39 rounds to x 40
estimated product 120,000

Estimate the answer to each problem.

⑨ The ACE Print Shop can make 3251 copies of a newspaper every hour. Approximately how many copies can be made in a twenty-four hour run?

estimate

Approximately 60,000 copies will be delivered to the stores.

⑩ The printer delivers 1225 flyers to each of 17 stores. Estimate the number of copies to be delivered to all the stores.

estimate

Approximately 20,000 copies will be delivered.

P.O.5.04.01.03

NAME: ____________ CLASS: ______ DATE: ______

Solve the following examples using the distributive property of multiplication over addition.

1.

87 x 6209 = (80 + 7) x 6,209
= (80x6,209)+(7x6,209)
= 496,720 + 43,463
= 540,183

2.

31 x 4526 = (30 + 1) x 4526
= (30 x 4526) + (1 x 4526)
= 135,780 + 4,526
= 140,306

3.

44 x 1937 = (40 + 4) x 1937
= (40 x 1937) + (4 x 1937)
= 77,480 + 7,748
= 85,228

4.

59 x 2398 = (50 + 9) x 2398
= (50 x 2398) + (9 x 2398)
= 119,900 + 21,582
= 141,482

5.

27 x 2596 = (20 + 7) x 2596
= (20 x 2596)+(7 x 2596)
= 51,920 + 18,172
= 70,092

6.

76 x 3310 = (70 + 6) x 3310
= (70 x 3310) + (6 x 3310)
= 231,700 + 19860
= 251,560

P.O.5.04.01.04

NAME: ______________________ **CLASS:** _______ **DATE:** __________

Compute each product. Find the solution in the Coded Message Box. Write the letter of the example in the blank space.

Ⓝ 2 3 6 9 x 4 3 101,867	Ⓥ 3 4 5 1 x 5 3 182,903	Ⓦ 1 9 7 6 x 2 5 49,400	Ⓨ 1 6 8 5 x 3 4 57,290
Ⓒ 4 1 3 0 x 1 6 66,080	Ⓞ 8 7 0 4 x 8 2 713,728	Ⓘ 6 2 8 7 x 6 9 433,803	Ⓚ 9 5 2 8 x 3 1 295,368
Ⓡ 5 8 1 3 x 7 8 453,414	Ⓔ 7 0 4 2 x 9 7 683,074		

Coded Message Box

V	E	R	Y
182,903	683,074	453,414	57,290
N	I	C	E
101,867	433,803	66,080	683,074
W	O	R	K !
49,400	713,728	453,414	295,368

P.O.5.04.01.05

NAME: ______________________ **CLASS:** ________ **DATE:** __________

Mixed Problem Solving

1. Mexican farmers produce a daily food supply which provides 2654 calories per day per person. How many calories are produced per person in 2 weeks? 37,156 estimate solve

2. There are 3576 food calories per person produced daily in the United States. About how many food calories per person are produced in the month of May? 120,000 How many are actually produced? 110,856 estimate solve

3. Three thousand seventy-five Mexican-American farm workers harvested crops for 16 hours. How many man-hours were worked? 49,200 estimate solve

4. A migrant farm worker earns $166.25 in 5 days. Estimate how much money the worker earns per day. What is the actual daily salary? $33.25 estimate solve

5. The average worker travels to and from the farm about 1147 miles monthly. Estimate the number of miles the worker travels to work in a year. 10,000 or 12,000 What is the actual number of miles? 13,764 estimate solve

6. Mexico imports 25 pieces of farm equipment for each farm. How many pieces of farm equipment must be imported to equip 1880 farms? 47,000 estimate solve

P.O. 5.05.01.01,.02, & .05

NAME: ______________________ **CLASS:** ______ **DATE:** __________

Divide and check the examples below.

①

$$\begin{array}{r} 2102 \\ 4\overline{)8408} \end{array}$$

$$\begin{array}{r} 2000 + 100 + 2 \\ 4\overline{)8000 + 400 + 8} \end{array}$$

②

$$\begin{array}{r} 3174 \\ 2\overline{)6348} \end{array}$$

$$\begin{array}{r} 3000 + 100 + 70 + 4 \\ 2\overline{)6000 + 300 + 140 + 8} \end{array}$$

③

$$\begin{array}{r} 424 \\ 7\overline{)2968} \end{array}$$

check

$$\begin{array}{r} 424 \\ \times \quad 7 \\ \hline 2968 \end{array}$$

④

$$\begin{array}{r} \$4.06 \\ 4\overline{)\$16.24} \end{array}$$

check

$$\begin{array}{r} \$4.06 \\ \times \quad 4 \\ \hline \$16.24 \end{array}$$

⑤

$$\begin{array}{r} \$11.62 \\ 8\overline{)\$92.96} \end{array}$$

check

$$\begin{array}{r} \$11.62 \\ \times \quad 8 \\ \hline \$92.96 \end{array}$$

⑥

$$\begin{array}{r} \$13.77 \\ 3\overline{)\$41.31} \end{array}$$

check

$$\begin{array}{r} \$13.77 \\ \times \quad 3 \\ \hline \$41.31 \end{array}$$

Mixed Problem Solving

7. The coach bought 5 basketballs each costing the same amount. He spent a total of $84.75. How much did each basketball cost?

Each basketball cost $16.95.

8. The students in 9 classes sold 1287 tickets to the championship basketball game. If each class sold an equal number of tickets, how many tickets were sold by each class?

Each class sold 143 tickets.

9. There were 6 green and white satin banners hanging in the sports arena. If the banners cost $15.76 each, what was the total cost of the banners?

The total cost was $94.56.

P.O. 5.05.01.03-.05

NAME: ______________________________ **CLASS:** _______ **DATE:** ____________________

Divide and check.

① 13,639 R5 6)81,839 check 13,639 X 6 81,834 + 5 81,839	② $32.16 4)$128.64 check $32.16 X 4 $128.64	③ R2 or 5337 $\frac{2}{7}$ 5,337 7)37,361 check 5337 X 7 37,359 + 2 37,361
④ $77.49 5)$387.45 check $77.49 X 5 $387.45	⑤ 702 R1 or 702 $\frac{1}{3}$ 3)2107 check 702 X 3 2106 + 1 2107	⑥ 628 R2 or 628 $\frac{2}{5}$ 5)3142 check 628 X 5 3140 + 2 3142

Mixed Problem Solving

7. Mr. Bracken bought a television for the bedroom and one for the living room. Each cost the same amount of money. He spent a total of $529.98. How much did each television cost?

Each television cost $264.99.

8. The salesman said, "Mr. Bracken, if you buy 5 televisions you can get a special price of $947.75 for all 5." If he gives the salesman $1000.00, how much change will he get?

His change will be $52.25.

9. The salesman sold 8 personal stereos for a total cost of $204.72. Each stereo cost the same. How much did one stereo cost?

Each cost $25.59.

P.O. 5.05.01.05

NAME: ____________________ **CLASS:** ______ **DATE:** ____________

Follow the directions below.

LONGEST RUNNING BROADWAY SHOWS

NAME OF SHOW	NUMBER OF YEARS RUNNING	NUMBER OF PERFORMANCES
A CHORUS LINE	11 years	4554
GREASE	8 years	3384
FIDDLER ON THE ROOF	9 years	3240
PIPPIN	6 years	1992
BORN YESTERDAY	3 years	1641
AIN'T MISBEHAVIN'	4 years	1604

Each of the plays above had many performances each year. Use the chart to answer the questions. If there is a remainder, express it as a fraction. Check your answers by multiplying.

1. How many performances did Fiddler On the Roof have each year?

Fiddler On the Roof had 360 performances each year.

2. How many performances per year did Pippin have?

Pippin had 332 performances per year.

3. Which show gave more performances per year; Born Yesterday or A Chorus Line? How many more?

Born Yesterday gave 133 more performances per year.

4. Which show gave the fewest performances per year?

PIPPIN gave the fewest performances per year.

SHARPENING YOUR SKILLS

Units 14, 15, 16

Name: ____________________ **Class:** ____________ **Date:** ________

1. $\begin{array}{r} 894 \\ 7\overline{)6258} \end{array}$

check

$\begin{array}{r} 894 \\ \times \quad 7 \\ \hline 6258 \end{array}$

2. estimate

$\begin{array}{r} 70 \\ \times 20 \\ \hline 1400 \end{array}$

$\begin{array}{r} 68 \\ \underline{\times 21} \end{array}$

ⓐ 13,558 ⓒ 194

ⓑ 1328 ● 1428

3. $\begin{array}{r} 49 \\ \underline{\times 55} \end{array}$

ⓐ 2785 ⓒ 490

● 2695 ⓓ 2255

4. Create and solve a word problem using the numbers 12 and 348.

Answers will vary.

5. $\begin{array}{r} 4{,}000 \\ \underline{\times \quad 50} \end{array}$

ⓐ 20,000 ● 200,000

ⓑ 450,000 ⓓ 400,000

6. estimate

$\begin{array}{r} 2{,}000 \\ \times \quad 60 \\ \hline 120{,}000 \end{array}$

$\begin{array}{r} 2387 \\ \underline{\times \quad 64} \\ 9548 \\ 143{,}220 \\ \hline 152{,}768 \end{array}$

7. $6\overline{)49{,}672}$

ⓐ $1161\frac{2}{6}$ ⓒ $8270\frac{2}{6}$

● $8278\frac{4}{6}$ ⓓ $7010\frac{1}{6}$

8. Wendy works 8 hours a day. She earns $8.15 an hour. How much money does she earn in 5 days?

Wendy earns $326.00 in 5 days.

P.O. 5.14.06.01 & .03

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Find the quotients for each example and check.

① $50\overline{)839}$ 16 R39 or $16\frac{39}{50}$

check

$$\begin{array}{r} 16 \\ \times\ 50 \\ \hline 800 \\ +\ 39 \\ \hline 839 \end{array}$$

② $90\overline{)475}$ 5 R25 or $5\frac{25}{90}$

check

$$\begin{array}{r} 90 \\ \times\ 5 \\ \hline 450 \\ +\ 25 \\ \hline 475 \end{array}$$

③ $30\overline{)696}$ 23R 6 or $23\frac{6}{30}$

check

$$\begin{array}{r} 23 \\ \times\ 30 \\ \hline 690 \\ +\ 6 \\ \hline 696 \end{array}$$

④ $60\overline{)239}$ 3 R59 or $3\frac{59}{60}$

check

$$\begin{array}{r} 60 \\ \times\ 3 \\ \hline 180 \\ +\ 59 \\ \hline 239 \end{array}$$

⑤ $40\overline{)728}$ 18R8 or $18\frac{8}{40}$

check

$$\begin{array}{r} 18 \\ \times\ 40 \\ \hline 720 \\ +\ 8 \\ \hline 728 \end{array}$$

⑥ $70\overline{)951}$ 13 R41 or $13\frac{41}{70}$

check

$$\begin{array}{r} 13 \\ \times\ 70 \\ \hline 910 \\ +\ 41 \\ \hline 951 \end{array}$$

Solve each problem.

⑦ 217 fifth graders visited Washington, D.C. Each bus can hold 40 students. How many buses went to Washington?

6 buses went to Washington.

⑧ The students took 360 pictures. If there were 20 pictures on each roll of film, how many rolls of film did they use?

They used 18 rolls of film.

P.O. 5.14.06.02-.03

NAME: ______________________ **CLASS:** _______ **DATE:** _________

Find each quotient and check.

① $17\overline{)84}$ 4R16 or $4\frac{16}{17}$

check
17
X 4
68
+16
84

② $93\overline{)711}$ 7 R60 or $7\frac{60}{93}$

check
93
X 7
651
+ 60
711

③ $36\overline{)672}$ 18 R 24 or $18\frac{24}{36}$

check
18
X 36
108
+540
648
+ 24
672

④ $57\overline{)117}$ 2 R3 or $2\frac{3}{57}$

check
57
X 2
114
+ 3
117

⑤ $23\overline{)\$7.36}$ \$0.32

check
\$0.32
X 23
96
+640
\$ 7.36

⑥ $47\overline{)\$9.87}$ \$0.21

check
\$0.21
X 47
147
840
\$9.87

⑦ $41\overline{)336}$ estimate: 8
actual: 8R8 or $8\frac{8}{41}$

check
41
X 8
328
+ 8
336

⑧ $25\overline{)245}$ estimate: 10
actual: 9R20 or $9\frac{20}{25}$

check
25
X 9
225
+ 20
245

Solve each problem.

⑨ On July 4, 32 people had a picnic near the Lincoln Memorial. They shared the cost of the picnic which was \$512. How much did each person pay?

Each person paid \$16.

⑩ If 12 children blew up 144 balloons, what is the average number of balloons blown up by each child?

Each child blew up 12 balloons.

P.O. 5.05.02.01

NAME: ______________________ **CLASS:** ______ **DATE:** __________

Estimate each of the quotients below.

① 47)7963

47 x 100 = 4700 < 7963

47 x 200 = 9400 > 7963

Conclusion: The quotient of 47)7963 is between 100 and 200.

② 13)8654

Conclusion: The quotient of 13)8654 is between 600 and 700.

③ 75)1261

Conclusion: The quotient of 75)1261 is between 10 and 20.

④ 56)6202

Conclusion: The quotient of 56)6202 is between 100 and 200.

⑤ 31)7522

Conclusion: The quotient of 31)7522 is between 200 and 300.

⑥ 68)9585

Conclusion: The quotient of 68)9585 is between 100 and 200.

P.O. 5.05.02.01,.02&.04

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Estimate each quotient. Then solve and check each example.

① **Estimate:** 300

$280\frac{14}{28}$

28)7854

check
280
x 28
2240
+5600
7840
+ 14
7854

② **Estimate:** 100

$121\frac{27}{42}$

42)5109

check
121
x 42
242
+4840
5082
+ 27
5109

③ **Estimate:** 100

$123\frac{6}{76}$

76)9354

check
123
x 76
738
+8510
9248
+ 6
9254

④ **Estimate:** 50

$49\frac{45}{99}$

99)4896

check
49
x 99
441
+4410
4851
+ 45
4896

Solve each problem.

⑤ A science experiment called for 5167 mg of salt to be divided equally into 24 batches. How much will each batch of salt weigh?

Each batch of salt will weigh $215\frac{7}{24}$ mg.

⑥ One chemical cost $14.82 for 13 grams. How much did it cost for each gram of the chemical?

Each gram of the chemical cost $1.14.

Challenge:

Find the cost for a kilogram.
$1140

Do you remember?

$\frac{3}{5}$	$\frac{1}{8}$	$\frac{5}{6}$	$\frac{7}{9}$	$\frac{5}{12}$	$\frac{8}{10}$
$+\frac{1}{5}$	$+\frac{4}{8}$	$-\frac{4}{6}$	$-\frac{7}{9}$	$+\frac{6}{12}$	$-\frac{5}{10}$
$\frac{4}{5}$	$\frac{5}{8}$	$\frac{1}{6}$	0	$\frac{11}{12}$	$\frac{3}{10}$

P.O. 5.05.02.01,.03-.04

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Estimate each quotient. Then solve and check each example.

① **Estimate:** 1500

$1{,}526\frac{2}{27}$

$27\overline{)41{,}209}$

check

```
   1526
 x   27
 10,682
+30,520
 41,202
+     7
 41,209
```

② **Estimate:** 600

$565\frac{59}{64}$

$64\overline{)36{,}219}$

check

```
   565
 x  64
  2260
 33900
 36,160
     59
 36,219
```

③ **Estimate:** 3,000

$3{,}278\ \frac{24}{28}$

$28\overline{)91{,}808}$

check

```
   3278
 x   28
 26,224
+65,560
 91,784
+    24
 91,808
```

④ **Estimate:** $40

$47.96

$18\overline{)\$863.28}$

check

```
  $47.96
 x    18
   38368
   47960
 $863.28
```

Solve each problem.

⑤ Tickets for the graduation class trip cost $971.19. If 81 students went on the trip, how much did each ticket cost?

Each ticket cost $11.99.

⑥ 9,889 students arrived in Washington that day, on 341 buses. They came from all over the country. If each bus had the same number of students, how many students were on each bus?

There were 29 students on each bus.

CHALLENGE!

Which is greater, $\frac{1}{3}$ of $\frac{1}{5}$ or $\frac{1}{4}$ of $\frac{1}{2}$?

$\frac{1}{4}$ of $\frac{1}{2}$

Which is less, $\frac{2}{3}$ of 15 or $\frac{3}{4}$ of 16?

$\frac{3}{4}$ of 16

P.O. 5.12.01.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Compute the mean, the range, and the median for each group of data.

	Mean	Range	Median
① 16, 15, 19, 36, 19	21	21	19
② 5, 9, 6, 2, 8	6	7	6
③ 15, 12, 18	15	6	15
④ 1, 8, 12, 14, 6, 8, 7	8	13	8
⑤ 26, 24, 29, 20, 21	24	9	24
⑥ 223, 164, 246	211	82	223
⑦ 15, 15, 15, 15, 15, 23, 14	16	9	15
⑧ 25, 30, 32, 18, 25	26	14	25
⑨ 216, 195, 210, 200, 195, 230, 220, 220, 240	214	45	216
⑩ 75, 65, 70, 80, 85	75	20	75
⑪ 600, 100, 500, 200, 400	360	500	400
⑫ 74, 95, 98, 86, 58, 59, 97	81	40	86
⑬ 81, 45, 63, 35, 51	55	46	51
⑭ 15, 25, 81, 83, 46	50	68	46
⑮ 82, 82, 78, 88, 96, 98, 99	89	21	88

CHALLENGE!

Janice said, "I know the average, it's 274." For which group, or groups, of numbers below is Janice's average correct?

Ⓐ	Ⓑ	Ⓒ	Ⓓ
200	312	357	209
388	250	274	189
519	305	289	372
120	274	270	256
128	229	200	344

Group(s) B, D

SHARPENING YOUR SKILLS

Units 17, 18, 19

Name: ____________________ **Class:** ____________ **Date:** ________

1. 21 R 1 or $21\frac{1}{36}$

36)757

check

$$\begin{array}{r} 21 \\ \times\ 36 \\ \hline 126 \\ +630 \\ \hline 756 \\ +\ \ 1 \\ \hline 757 \end{array}$$

2. Estimate to find the surrounding hundreds.

58)6621

$\underline{100} < \frac{6621}{58} < \underline{200}$

3. **STUDENTS' TEST SCORES**

Allan	87	Fran	76
Bob	76	George	96
Carol	93	Hal	59
Don	62	Ike	83
Ed	88		

Mean = 80 Mode = 76

Median = 83 Range = 37

4. The 28 students of class 5-108 raised $816.48 to donate to charity. What was the average amount that each student raised?

The average amount raised was $29.16.

5. 3,104

28)86,912

check

$$\begin{array}{r} 3{,}104 \\ \times\ \ \ 28 \\ \hline 24{,}832 \\ +62{,}080 \\ \hline 86{,}912 \end{array}$$

6. Find the mean temperature and the median temperature.

6 A.M. - 60°
1 P.M. - 86°
8 P.M. - 69°
10 A.M. - 71°
3 P.M. - 89°

Mean = 75° Median = 71°

7. A truck travels 1368 miles during a 24 hour period. What is its average hourly mileage?

The average hourly mileage is 57mph.

8. 115 R 26 or $115\frac{26}{34}$

34)3936

check

$$\begin{array}{r} 115 \\ \times\ 34 \\ \hline 460 \\ 3450 \\ \hline 3910 \\ +\ 26 \\ \hline 3936 \end{array}$$

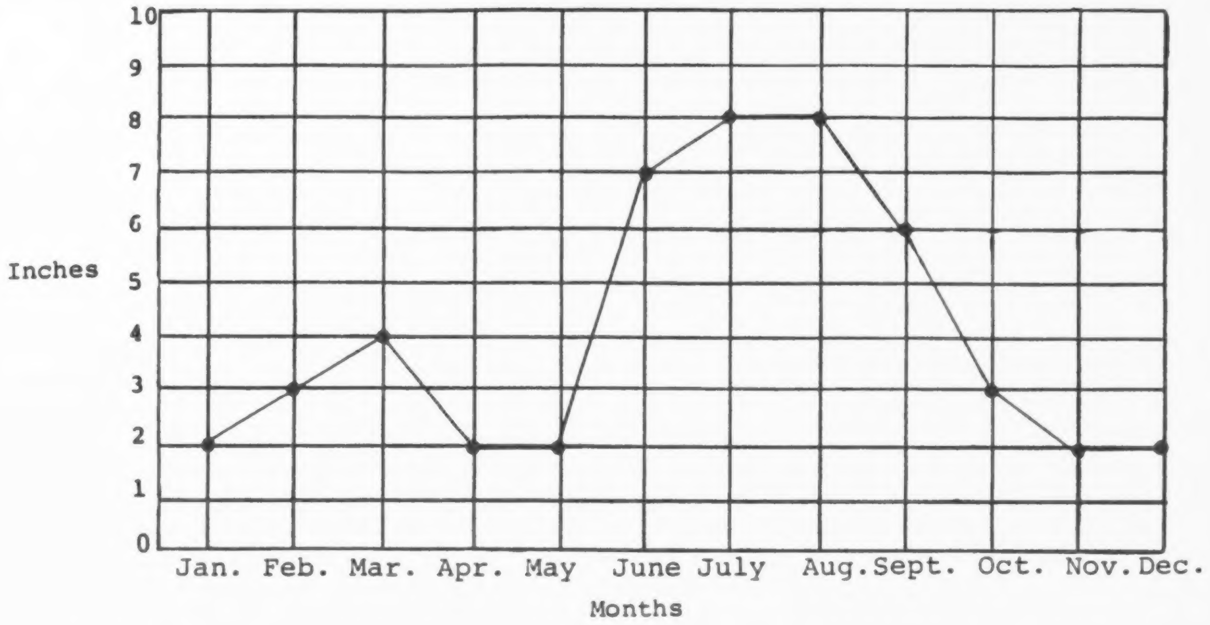
P.O. **5.12.02.01**

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

Use the graph to answer the questions below.

AVERAGE MONTHLY PRECIPITATION

Tampa, Florida



1. What is the average precipitation during the month of June?
7"

2. On the average, how much more rain falls in Tampa in June than in January? 5"

3. What is the average amount of rainfall during one year? 49"

4. During which months did the precipitation increase over the month before? Feb., Mar., June, July

5. Find the total precipitation for June, July, and August. 23"

6. During which season does the most precipitation occur? Summer

7. Create a question about this graph. Answers will vary.

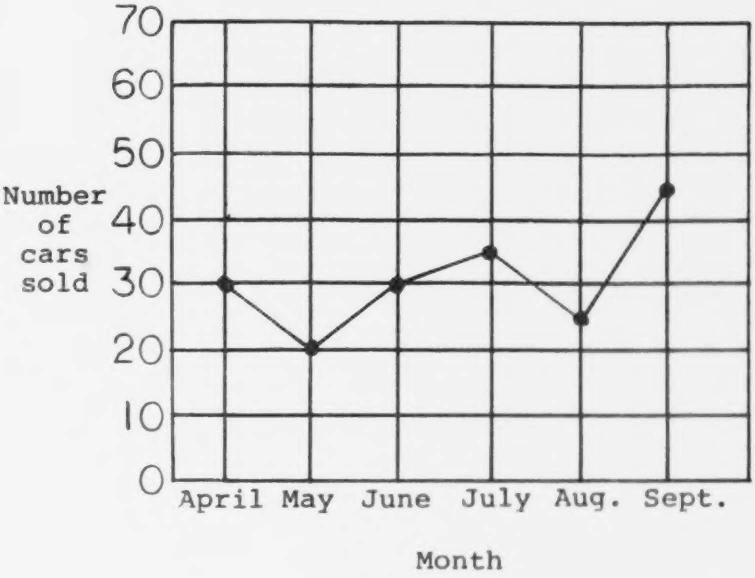
P.O. **5.12.02.02**

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

Use the tables below to construct line graphs.

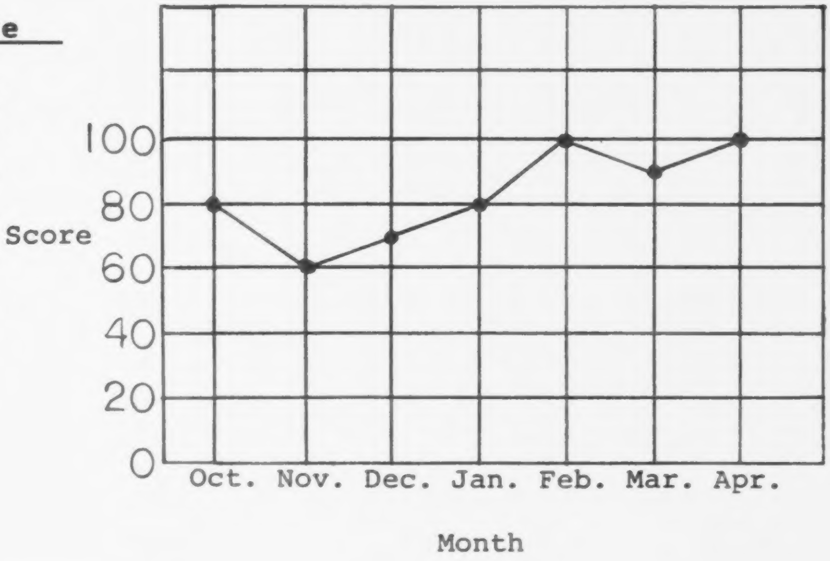
Used Cars Sold at Fred's Used Car Lot

Month	Number of Cars Sold
April	30
May	20
June	30
July	35
August	25
September	45



Stephanie's Math Scores

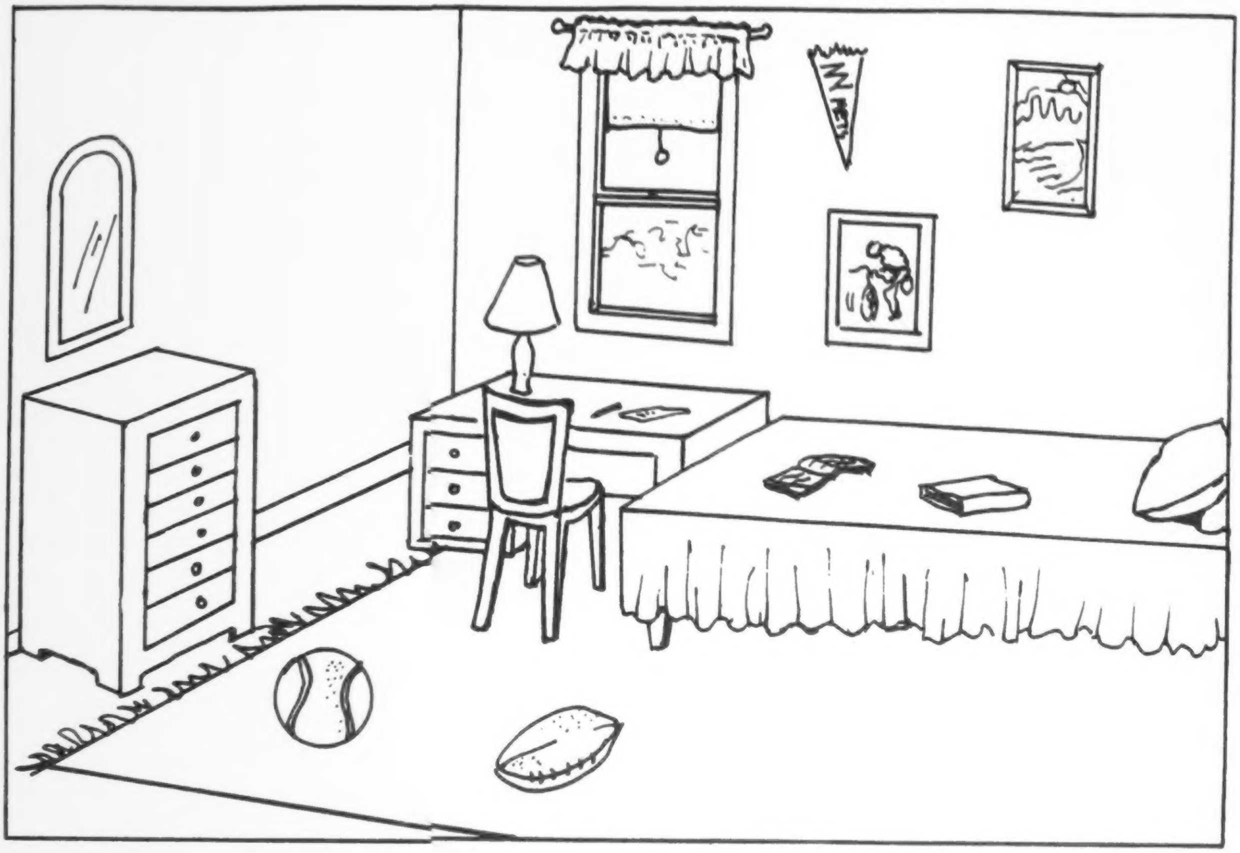
Month	Score
October	80
November	60
December	70
January	80
February	100
March	90
April	100



P.O. 5.09.01.01

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Name 8 objects in this room that can be used as models for planes.



1. Answers will vary.
2.
3.
4.
5.
6.
7.
8.

Identify at least 10 objects in the classroom that can be used as models for planes.

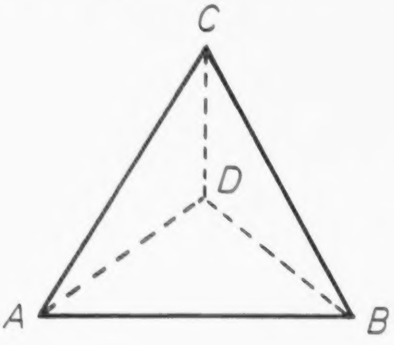
1. Answers will vary.
2.
3.
4.
5.
6.
7.
8.
9.
10.

P.O. 5.09.01.02

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

For each figure below, name at least two pairs of intersecting planes.

①

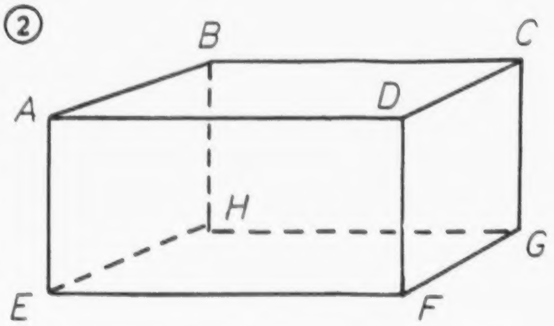


Intersecting planes are:

ABC and ABD

Answers will vary.

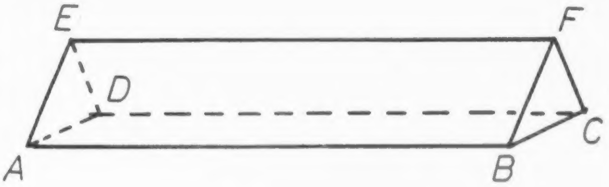
②



Intersecting planes are:

Answers will vary.

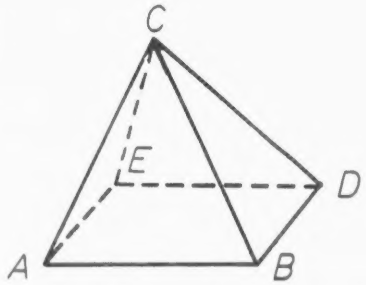
③



Intersecting planes are:

Answers will vary.

④



Intersecting planes are:

Answers will vary.

Do you remember?

Compute the following:

① $\frac{1}{3}$ of 12 = $\boxed{4}$ ② $\frac{4}{5}$ of 20 = $\boxed{16}$ ③ $\frac{2}{10}$ of 100 = $\boxed{20}$

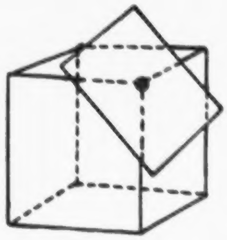
④ $\frac{3}{4}$ of 24 = $\boxed{18}$ ⑤ $\frac{1}{9}$ of 81 = $\boxed{9}$ ⑥ $\frac{6}{7}$ of 21 = $\boxed{18}$

P.O. **5.09.01.03**

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

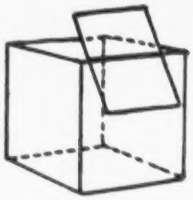
Identify the intersections of the planes and the space figures.

①



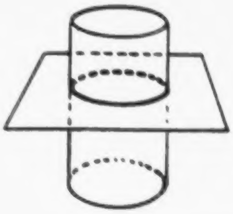
The intersection is
a point .

②



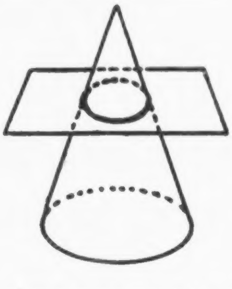
The intersection is
a line segment .

③



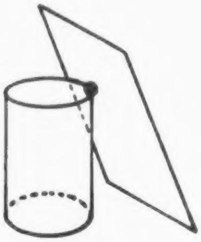
The intersection is
a circle .

④



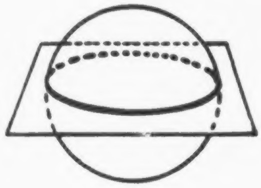
The intersection is
a circle .

⑤



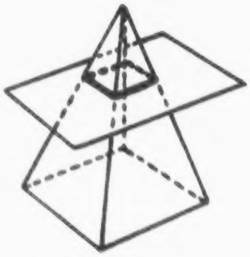
The intersection is
a point .

⑥



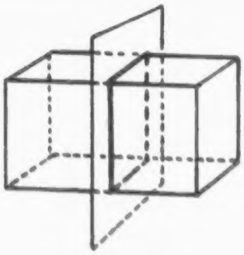
The intersection is
a circle .

⑦



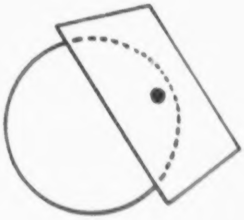
The intersection is
a square .

⑧



The intersection is
a rectangle .

⑨



The intersection is
a point .

Do you remember?

Find the products. Express each product in lowest terms.

① $\frac{3}{5} \times \frac{1}{2} = \frac{3}{10}$ ② $\frac{1}{3} \times \frac{7}{8} = \frac{7}{24}$ ③ $\frac{5}{7} \times \frac{3}{4} = \frac{15}{28}$ ④ $\frac{3}{8} \times \frac{2}{3} = \frac{1}{4}$

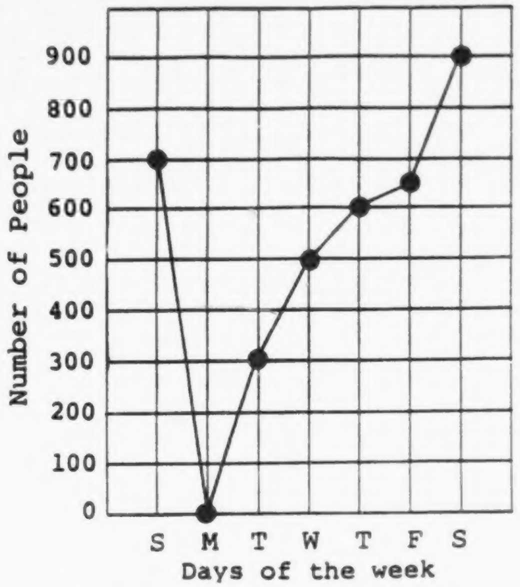
SHARPENING YOUR SKILLS

Units 20, 21

Name: ____________________ **Class:** ____________ **Date:** ________

Use the line graph to answer questions 1 - 6.

Visitors to Fun Park, Coney Island



1. On Wednesday there were 500 people at Fun Park.

2. On Sunday there were 700 people at Fun Park.

3. On which day did the greatest number of people visit Fun Park? Saturday

4. How many more people visited Fun Park on Friday than on Wednesday? 150

5. The total weekend attendance at Fun Park was 1600.

6. On which day do you think the park was closed? Monday

   Why? Attendance was 0.

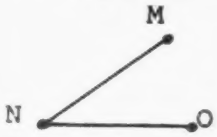
7. Which of the following is the best model of a plane?

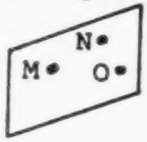
basketball tabletop drinking straw

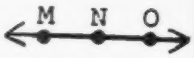
ⓐ ● ⓒ

8. If 2 points are on a plane, how many lines can be drawn through both points? 1

9. Which of the following symbols represents the plane MNO?

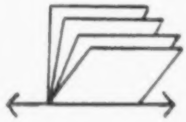


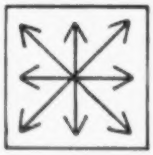


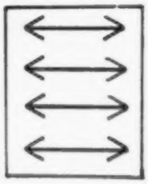


ⓓ ● ⓕ

10. Which picture demonstrates that many planes can pass through a fixed line?

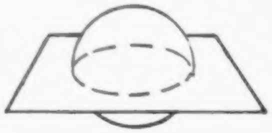


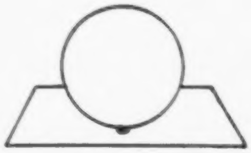




● ⓑ ⓒ

11. The figures and planes show that the intersection of a plane and sphere can be a circle (a) or a point (b)

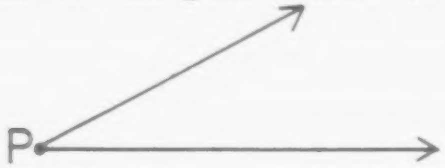




P.O. **5.09.02.01-.02**

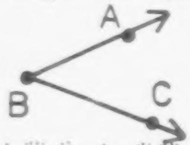
NAME: ______________________ **CLASS:** _______ **DATE:** ______________

What special name is given to the point where the two rays meet?

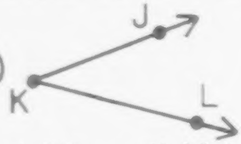


P is the vertex of the angle.

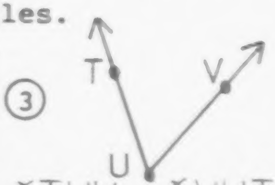
Write the name of each angle three ways. Use the angle symbol (∢) when you write the names of the angles.

①


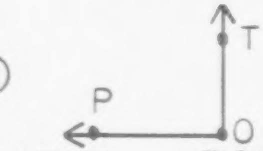
∢ABC ∢CBA
∢B

②


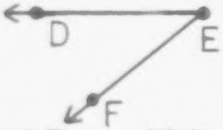
∢JKL ∢LKJ
∢K

③


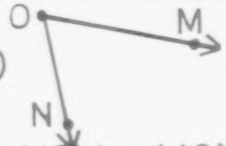
∢TUV ∢VUT
∢U

④


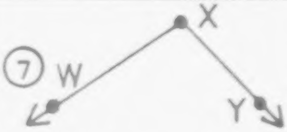
∢POT ∢TOP
∢O

⑤


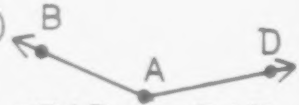
∢DEF ∢FED
∢E

⑥


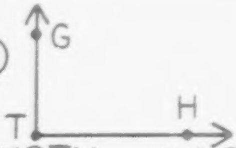
∢NOM ∢MON
∢O

⑦


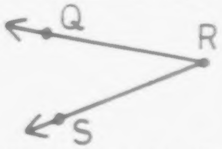
∢WXY ∢YXW
∢X

⑧


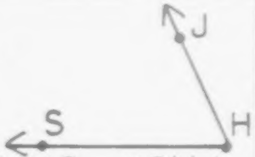
∢BAD ∢DAB
∢A

⑨


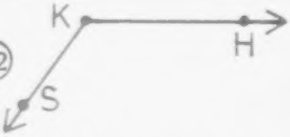
∢GTH ∢HTG
∢T

⑩


∢QRS ∢SRQ
∢R

⑪


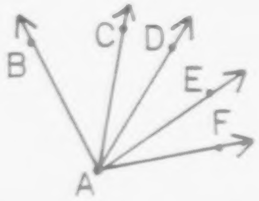
∢JHS ∢SHJ
∢H

⑫


∢SKH ∢HKS
∢K

CHALLENGE!

There are 10 angles in this drawing. Name each of them using 3 letters and the angle symbol (∢).



1. ∢BAC
2. ∢BAD
3. ∢BAE
4. ∢BAF
5. ∢CAD
6. ∢CAE
7. ∢CAF
8. ∢DAE
9. ∢DAF
10. ∢EAF

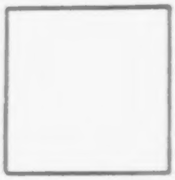
Why shouldn't you call any of them ∢ A?

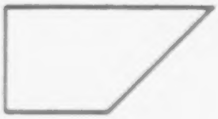
They all have point A as a vertex.

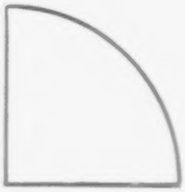
P.O. 5.09.03.01

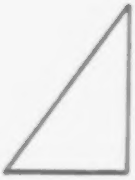
NAME: ______________________ **CLASS:** ______ **DATE:** ____________

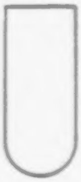
How many right angles are there in each figure?

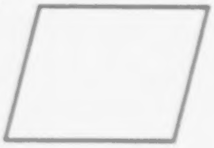
①

4

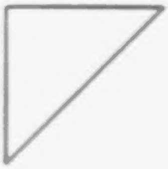
②

2

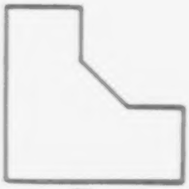
③

1

④

1

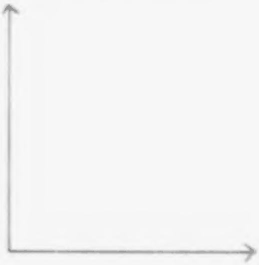
⑤

2

⑥

0

⑦

1

⑧

5

Construct a right angle.



CHALLENGE!

Which uppercase (capital) letters of the alphabet contain at least 1 right angle?

E, F, H, I, L, T

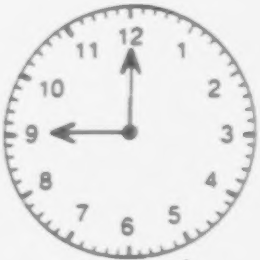
P.O. 5.09.03.02

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Draw the hands on each clock. Identify each angle formed as right, acute, or obtuse.

①

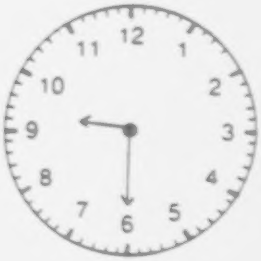
9:00



right

②

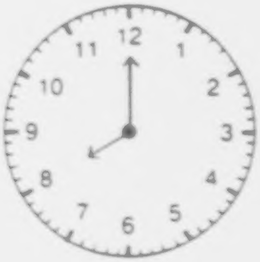
9:30



obtuse

③

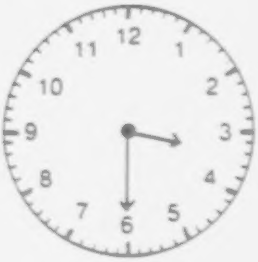
8:00



obtuse

④

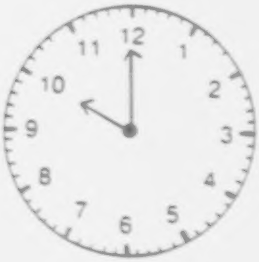
3:30



acute

⑤

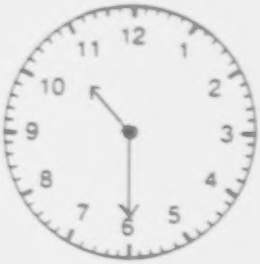
10:00



acute

⑥

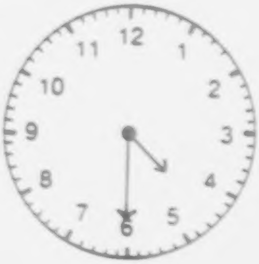
10:30



obtuse

⑦

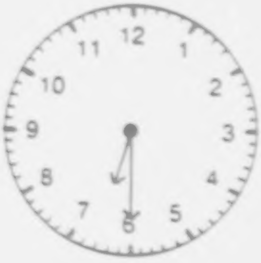
4:30



acute

⑧

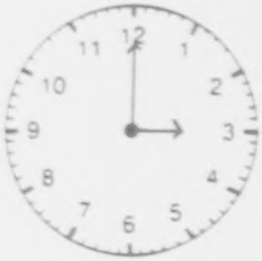
6:30



acute

⑨

3:00



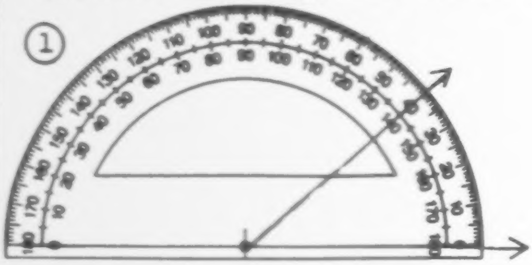
right

P.O. 5.09.03.03

NAME: ______________________________ **CLASS:** _______ **DATE:** __________________

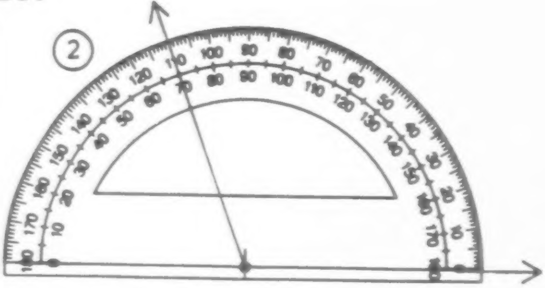
A Measure the angles below. Write the measure of the angle and tell whether each angle is acute or obtuse.

①



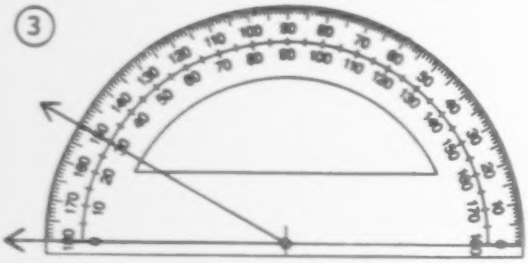
40° acute

②



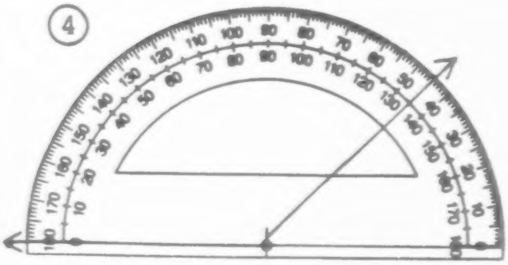
110° obtuse

③



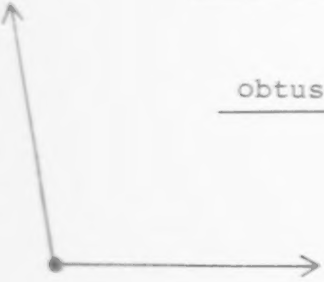
30° acute

④

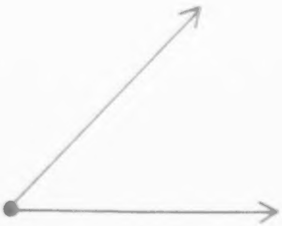


135° obtuse

⑤ 100° obtuse



⑥ 45° acute

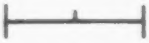


⑦ On a separate piece of paper draw a triangle containing angles of 30° and 75°. Measure the third angle.

The third angle measures 75°.

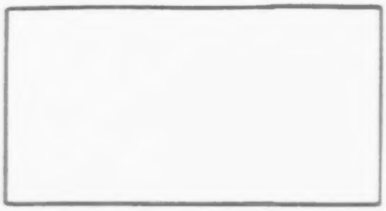
P.O. 5.10.03.01

NAME: ______________________________ **CLASS:** _______ **DATE:** ________________



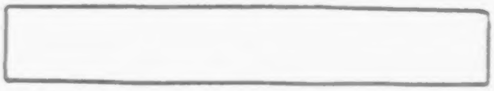
This line segment measures 2 centimeters. Use it to estimate the perimeter of each rectangle below. Then use a ruler to find the actual perimeter. Estimates may vary.

①



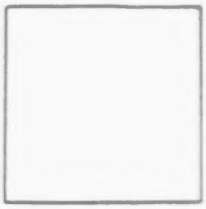
estimate: _____ actual: 17cm

②



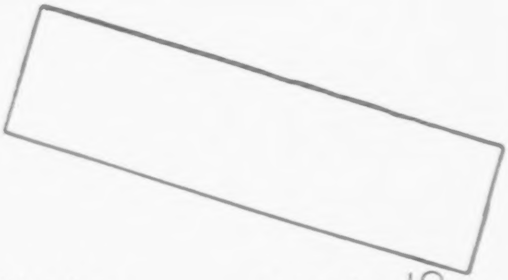
estimate: _____ actual: 16cm

③

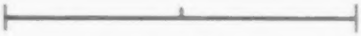


estimate: _____ actual: 12cm

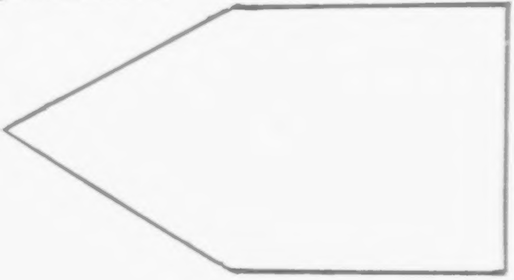
④



estimate: _____ actual: 18cm



This line segment is 2 inches long. Use it to estimate the perimeter of the polygon below. Measure to find the actual perimeter. Calculate the difference between your estimate and the actual perimeter.



estimate: __________

actual: $7\frac{1}{2}$"

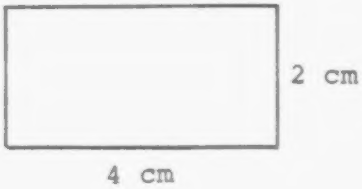
difference: __________

Estimates and differences may vary.

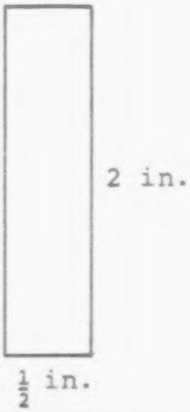
P.O. 5.10.03.02-.03

NAME: ______________________ **CLASS:** _______ **DATE:** __________

Find the perimeter of each rectangle.
You may use the formula P = (2 x l) + (2 x W).



The perimeter is 12 centimeters.



The perimeter is 5 inches.

Solve the problems.

① A fence will be placed around the schoolyard. The rectangular yard is 136 yards wide and 212 yards long. How much fencing is needed?

696 yards of fencing are needed.

② There is a small playground inside the schoolyard. A fence will be placed around it for the safety of the kindergarten children. This playground is 17 feet long and 12 feet wide. How many feet of fencing are needed?

58 feet of fencing are needed.

CHALLENGE!

How much fencing is needed to enclose both yards? 2146 feet or 715 $\frac{1}{3}$ yards.

83

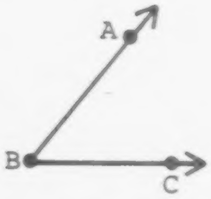
SHARPENING YOUR SKILLS

Units 22, 23, 24

Name: ____________________ **Class:** ____________ **Date:** ________

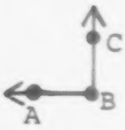
1. An angle is made up of two rays with the same endpoint. This endpoint is called its vertex.

2. The angle below can be named as _____.

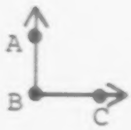


ⓐ ∡ B
ⓑ ∡ ABC
ⓒ ∡ CBA
● all of the above

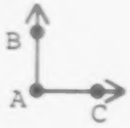
3. Which is ∡ BAC?



ⓔ



ⓕ

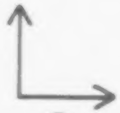


●

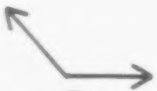
4. An acute angle has _____.

ⓐ more than 90°
● less than 90°
ⓒ 90°
ⓓ 120°

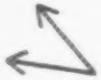
5. Which of the following is an acute angle.



ⓔ



ⓕ

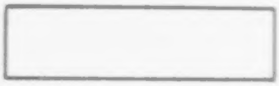


●

6. An obtuse angle has _____.

ⓐ 90°
● more than 90°
ⓒ less than 90°
ⓓ 45°

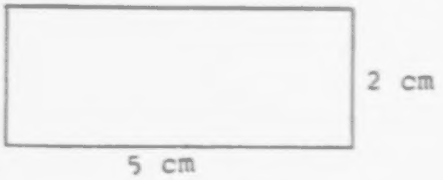
7. Estimate the perimeter of this rectangle.



1 cm	4 cm	6 cm	10 cm
ⓐ	ⓑ	ⓒ	●

8. Use the formula to find the perimeter of the rectangle.

P = (2 x L) + (2 x W)



P = 14 cm

P.O. 5.13.01.01-.02

NAME: ______________ **CLASS:** ______ **DATE:** ______________

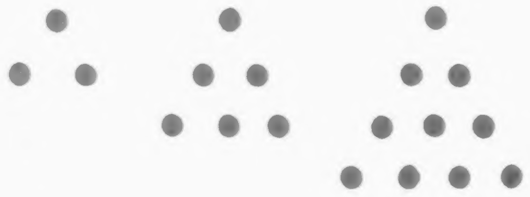
Draw a picture or make a table to solve each problem.

1. Maria, Kevin, Lionel, and Bernardo live on different floors of a large apartment house. Lionel lives above Bernardo. Maria lives between Lionel and Bernardo; Kevin lives below Bernardo. Who lives nearest the roof of the building? Lionel

2. The perimeter of a rectangular room is 42 feet. The length of the room is 12 feet. Find the width of the room. 9 feet

3. Freddie the frog fell into a hole that was 10 meters deep. Each day he jumped 3 meters up the side of the hole. Each night he slid down 2 meters. How many days did it take for Freddie to get out of the hole? 8 days

4. Study the dot patterns. How many dots will there be in a triangle of this type that has 8 dots along the bottom row? 36



P.O. 5.13.01.02

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Solve each problem below by drawing a table.

1. The first of a series of rectangles is 8 inches long and 4 inches wide. Each rectangle in the series is three times as long and twice as wide as the rectangle before it. Find the length and width of the fourth rectangle in the series.

   ℓ=216" w=32"

2. Ted has \$8.50 in the bank. If he saves 50¢ each week for the next 4 weeks, how much money will he have? \$10.50

3. Seven students are standing in line. Student A has 1 pencil, student B has 2 pencils, student C has 4 pencils, and student D has 8 pencils. If we continue this pattern, how many pencils will students E, F, and G have?

   E has 16 pencils.
   F has 32 pencils.
   G has 64 pencils.

4. The temperature at 5:00 A.M. was $^{-}4$°F. If the temperature rises 2° each hour, what will the temperature be at noon?

   10° F

CHALLENGE!

Alvin, Brian, Carla, Diane, and Ernie are at a party. If each one were to shake everyone else's hand, how many handshakes would there be? 10

P.O. 5.01.02.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Show each set of items in set notation.

① Write Set Q. Its members are the odd numbers between 20 and 30.

$Q = \{21, 23, 25, 27, 29\}$

② Write Set L. Its members are the last six letters of the alphabet.

$L = \{U, V, W, X, Y, Z\}$

③ Show the union of Set Q and Set L above.

$Q \cup L = \{21, 23, 25, 27, 29, U, V, W, X, Y, Z\}$

④ Write Set X. Its members are the months which have 30 days.

$X = \{$Sept., Apr., June, Nov.$\}$

⑤ Write Set Z. Its members are the letters in your first name.

$Z = \{$Answers will vary.$\}$

⑥ Write Set N. Its members are the greatest 2-digit number and the least 2-digit number.

$N = \{99, 10\}$

⑦ Write Set E. Its members are the even numbers between 5 and 15.

$E = \{6, 8, 10, 12, 14\}$

⑧ Show the union of Set N and Set E above.

$N \cup E = \{99, 6, 8, 10, 12, 14\}$

⑨ Write Set Y. Its members are all the factors of 25.

$Y = \{1, 5, 25\}$

⑩ Write Set F. Its members are all the factors of 18.

$F = \{1, 2, 3, 6, 9, 18\}$

P.O. 5.01.02.03-.04

NAME: ______________________ **CLASS:** ________ **DATE:** __________

① Write the intersection of Set P and Set Q.

$P = \{11, 17, 26, 3, 9, 50\}$
$Q = \{2, 3, 5, 9, 50, 72\}$

$P \cap Q = \{3, 9, 50\}$

② Write the intersection of Set A and Set B.

$A = \{1, 3, 5, 7, 9\}$
$B = \{2, 4, 6, 8, 10, 12, 14\}$

$A \cap B = \{\ \}$

③ Write the intersection of Set X and Set Y.

$X = \{\text{dog, cat, hamster, fish}\}$
$Y = \{\text{cow, horse, dog}\}$

$X \cap Y = \{\text{dog}\}$

④ Write the intersection of Set E and Set O.

$E = \{4, 8, 16, 20, 24\}$
$O = \{5, 10, 15, 20, 25\}$

$E \cap O = \{20\}$

Use these club rosters to answer questions 5 through 7.

BOBCATS	LIONS	TIGERS
Bobby	Calvin	Donna
Calvin	Freddy	Howard
Donna	Howard	Bobby
Evelyn	Jack	Joe
Freddy		Alice

Set B contains all the members of the Bobcats. Set L contains all the members of the Lions. Set T contains all the members of the Tigers.

⑤ Show the intersection of Set B and Set L.

$B \cap L = \{\text{Calvin, Freddy}\}$

⑥ Write the set of girls who are members of the Lions.

$G = \{\ \}$

⑦ Write one subset of Set T.

Answers will vary.

P.O. 5.01.02.05-.06

NAME: ______________ **CLASS:** ______ **DATE:** __________

① Write all the subsets of set M.

M = {○, △}

A = {○}

B = {△}

C = {○, △}

D = { }

② Show the subsets of set P.

P = {Debbie, Susan, Ann}

A = {Debbie}

B = {Susan}

C = {Ann}

D = {Debbie, Susan}

E = {Debbie, Ann}

F = {Susan, Ann}

G = {Debbie, Susan, Ann}

H = { }

③ Find the equivalent sets.

A = {cat, cow, duck}
B = {4, 7, 9, 11}
C = {P, R, O, U, D}
D = {○, □, △, ▭}
F = {5, 21, 23, 18, 16}
G = {B, O, Y}

Sets A and G are equivalent.

Sets B and D are equivalent.

Sets C and F are equivalent.

④ Identify a subset of Set A (in problem 3) which is equivalent to Set M (in problem 1).

Answers will vary.

Do you remember?

Use the chart to answer the questions.

Class 5-402 Recycling Program	
Student	Number of Cans Collected
Harvey	69
Perry	167
Howard	35
Connie	175
Sharon	89

① What was the total number of cans collected? 535

② Which student collected 78 more cans than another student? Perry

③ Use the information on the chart to write your own problem.

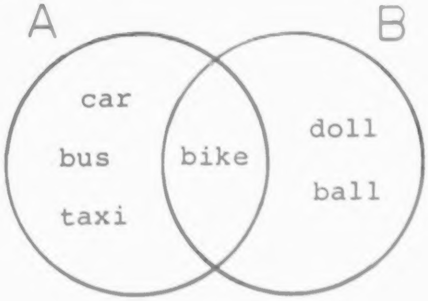
Answers will vary.

P.O. 5.01.03.01

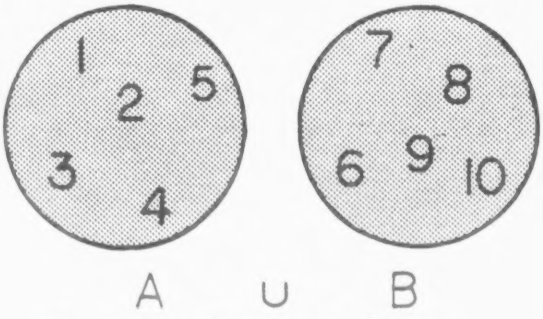
NAME: ______________________ **CLASS:** ________ **DATE:** ____________

① Show A∪B using a Venn diagram.

A = {bike, car, bus, taxi}
B = {doll, ball, bike}


A
B
car
bus
taxi
bike
doll
ball

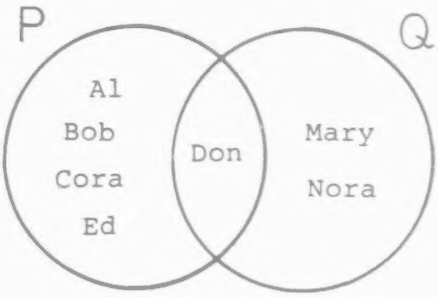
② Write the two sets whose union is shown below.


1
2
5
3
4
7
8
6
9
10
A ∪ B

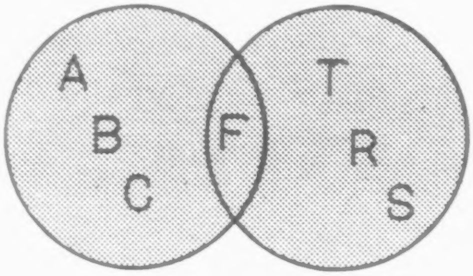
A = {1, 2, 3, 4, 5}
B = {6, 7, 8, 9, 10}
A ∪ B = {1,2,3,4,5,6,7,8,9,10}

③ Show P∪Q using a Venn diagram.

P = {Al, Bob, Cora, Don, Ed}
Q = {Don, Mary, Nora}


P
Q
Al
Bob
Cora
Ed
Don
Mary
Nora

④ Write X∪Y as shown in the Venn diagram below.



X∪Y = {A, B, C, F, T, R, S}

Do you remember?

Use the >, <, and = symbols to compare the decimals below.

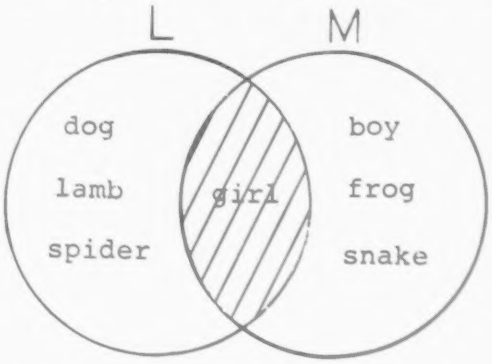
0.06 > 0.006	0.51 > 0.051	4.67 > 4.067
0.5 > 0.15	2.323 > 0.232	0.05 = 0.05
3.7 > 3.07	0.001 < 1.01	2.006 < 20.06

P.O. 5.01.03.02

NAME: ______________________ **CLASS:** ______ **DATE:** ______________

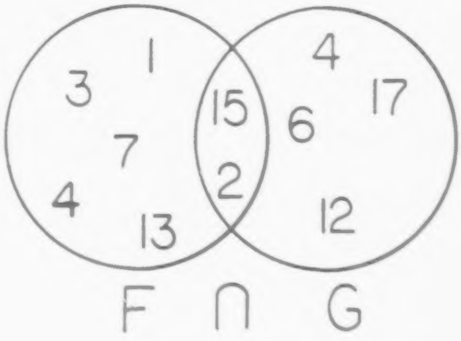
① Show Set L and Set M in the Venn diagram. Shade the intersection.

L = {dog, lamb, spider, girl}
M = {girl, boy, frog, snake}


L
M
dog
lamb
spider
girl
boy
frog
snake

L ∩ M = { girl }

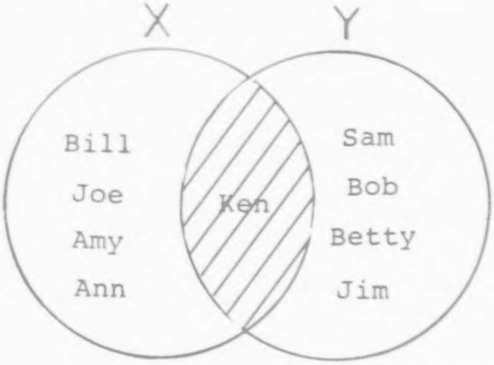
② Use the Venn diagram to find F ∩ G.


3
1
7
4
13
15
2
4
17
6
12
F ∩ G

F = {1, 2, 3, 4, 7, 13, 15}
G = {2, 4, 6, 12, 15, 17}
F ∩ G = { 2 , 15 }

③ Show Set X and Set Y using a Venn diagram. Shade the intersection.

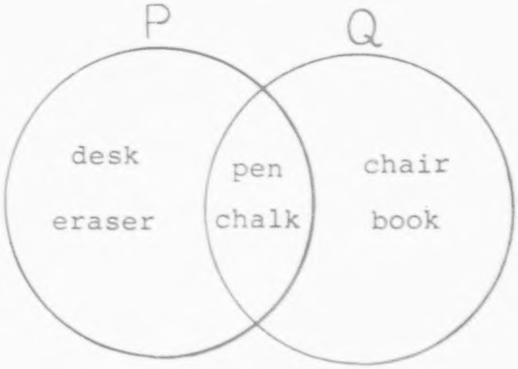
X = {Bill, Joe, Amy, Ann, Ken}
Y = {Ken, Sam, Bob, Betty, Jim}


X
Y
Bill
Joe
Amy
Ann
Ken
Sam
Bob
Betty
Jim

X ∩ Y = { Ken }

④ Find the intersection of Set P and Set Q using a Venn diagram.

P = {chalk, desk, eraser, pen}
Q = {chair, pen, book, chalk}

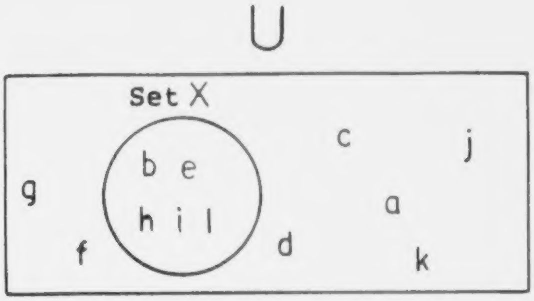

P
Q
desk
eraser
pen
chalk
chair
book

P ∩ Q = { pen, chalk }

P.O. 5.01.03.03

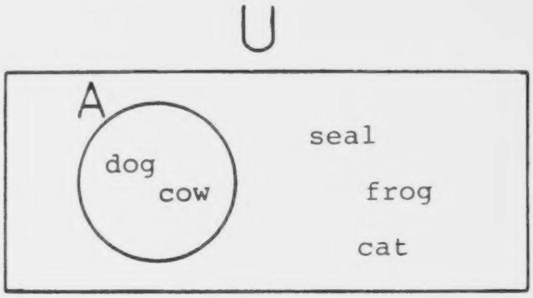
NAME: ____________________ **CLASS:** ________ **DATE:** ____________

① Fill in the missing elements of Set X.


U
Set X
b e
h i l
g
f
c
j
a
d
k

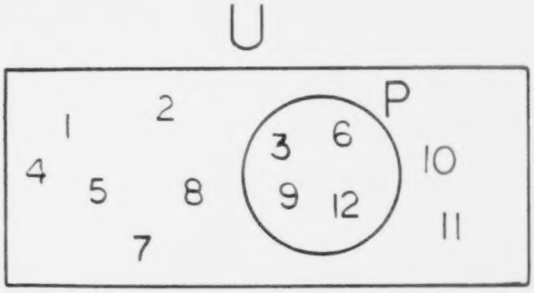
U = { a,b,c,d,e,f,g,h,i,j,k,l }
X = { b, e, h, i, l }

② Find Set C, which is the complement of Set A.


U
A
dog
cow
seal
frog
cat

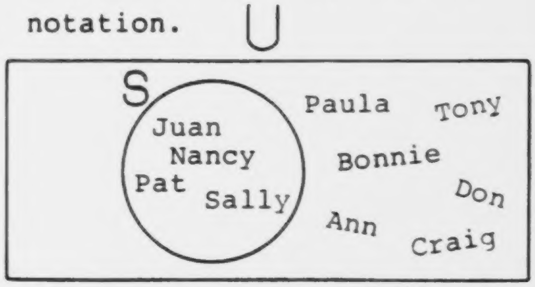
U = { seal, dog, frog, cat, cow }
A = { dog, cow }
C = { seal, frog, cat }

③ Write sets U, P, and C in the diagram.


U
P
1
2
4
5
8
7
3
6
9
12
10
11

U = { 1,2,3,4,5,6,7,8,9,10,11,12 }
P = { 3,6,9,12 }
C = { 1, 2, 4, 5, 7, 8, 10, 11 }

④ Write the universal set (Set U), the subset (Set S), and the complement (Set C), in set notation.


U
S
Juan
Nancy
Pat
Sally
Paula
Tony
Bonnie
Don
Ann
Craig

U = { Juan, Nancy, Pat, Sally, Ann, Bonnie, Paula, Don, Tony, Craig }
S = { Juan, Nancy, Pat, Sally }
C = { Paula, Tony, Bonnie, Don, Ann, Craig }

CHALLENGE!

Carrie earned 5 times as much as Paul. Paul earned $12 less than Carl. Sam earned $17 less than Carrie. If Carl earned $20, how much did Carrie, Sam, and Paul each earn?

Carrie earned $40, Sam earned $23, Paul earned $8.

SHARPENING YOUR SKILLS

Units 25, 26, 27

Name: ____________________ **Class:** ____________ **Date:** ________

1. Jack spent 45 minutes exercising on Sunday. If he increases his exercise time by 5 minutes each day, how much time will he spend exercising on Thursday? Complete the table below to answer this question.

Day	S	M	T	W	Th
Number of Minutes	45	50	55	60	65

2. Name the set of numbers between 21 and 33. (Hint: This set has exactly eleven members.)

N={22,23,24,25,26,27,28,29,30,31,32}

3. Find the union of Set X and Set Y.

X = {Ohio, Nebraska, Texas}

Y = {New York, Texas}

X ⋃ Y = {Ohio, Nebraska, Texas, New York}

4. Find the intersection of Set P and Set Q.

P = {glove, bat, ball}

Q = {hat, bat, base}

P ⋂ Q = { bat }

5. Identify the subsets of Set M.

M = {mountain, river}

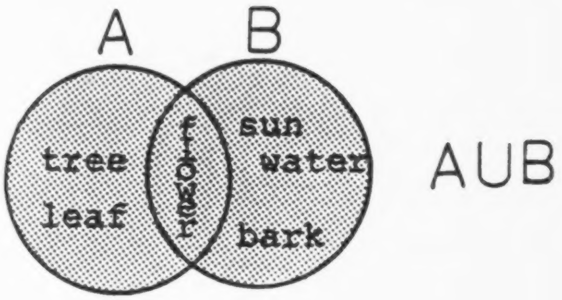
A = {mountain}

B = {river}

C = {mountain, river}

D = { }

Use the Venn diagram to answer questions 6 and 7.



6. A = { tree, leaf, flower }

B = {flower, sun, water, bark}

7. A ⋃ B = {tree, leaf, flower, sun, water, bark}

P.O. 5.14.07.01

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

The chart below can be used for a process called the Sieve of Eratosthenes. Cross out 1. Circle 2 and cross out all the remaining even numbers. Then circle 3 and cross out all the multiples of 3. Circle the next available number and cross out all of its multiples. Continue this process. When you are finished you will find that you have identified all the primes less than 100. They are the circled numbers.

Sieve of Eratosthenes

~~1~~	②	③	~~4~~	⑤	~~6~~	⑦	~~8~~	~~9~~	~~10~~
⑪	~~12~~	⑬	~~14~~	~~15~~	~~16~~	⑰	~~18~~	⑲	~~20~~
~~21~~	~~22~~	㉓	~~24~~	~~25~~	~~26~~	~~27~~	~~28~~	㉙	~~30~~
㉛	~~32~~	~~33~~	~~34~~	~~35~~	~~36~~	㊲	~~38~~	~~39~~	~~40~~
㊶	~~42~~	㊸	~~44~~	㊺	~~46~~	㊼	~~48~~	~~49~~	~~50~~
~~51~~	~~52~~	(53)	~~54~~	~~55~~	~~56~~	~~57~~	~~58~~	(59)	~~60~~
(61)	~~62~~	~~63~~	~~64~~	~~65~~	~~66~~	(67)	~~68~~	~~69~~	~~70~~
(71)	~~72~~	(73)	~~74~~	~~75~~	~~76~~	~~77~~	~~78~~	(79)	~~80~~
~~81~~	~~82~~	(83)	~~84~~	~~85~~	~~86~~	~~87~~	~~88~~	(89)	~~90~~
~~91~~	~~92~~	~~93~~	~~94~~	~~95~~	~~96~~	(97)	~~98~~	~~99~~	~~100~~

1. A prime number has exactly two different factors, itself and one.
2. The number with only one factor is one. It is neither prime nor composite.
3. The numbers 2, 3, 5, and 7 are all prime numbers.
4. The numbers 4, 6, 8, and 9 are all composite numbers.
5. The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, 36. Therefore 36 is a composite number.
6. The factors of 29 are 1, 29. Therefore 29 is a prime number.

CHALLENGE!

Find a number with exactly 5 factors. 16

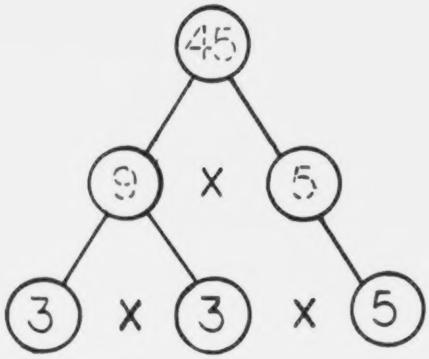
Can you find another? 81

P.O. 5.14.07.02

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

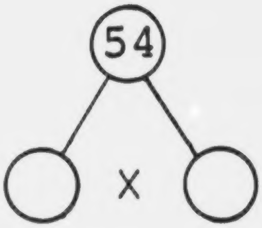
Complete each factor tree and express each composite number as a product of its primes. Factor trees will vary.

①



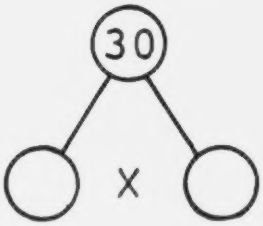
45 = 3 x 3 x 5

②



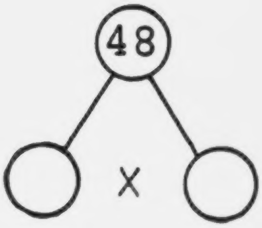
54 = 3 x 3 x 3 x 2

③



30 = 3 x 2 x 5

④



48 = 2 x 2 x 2 x 2 x 3

CHALLENGE!

Ms. Reston can type 70 words per minute. How many words can she type in $5\frac{1}{2}$ minutes?

385 words

P.O. 5.06.04.01

NAME: ______________________ **CLASS:** ________ **DATE:** ________

Find the greatest common factor (GCF) for each pair or group of numbers below.

① **14, 21**

factors of 14 = 1,2,7,14
factors of 21 = 1,3,7,21
common factors
of 14 and 21 = 1,7
GCF of 14 and 21 = 7

② **4, 8, 12**

factors of 4 = 1,2,4
factors of 8 = 1,2,4,8
factors of 12 = 1,2,3,4,6,12
common factors of
4, 8, and 12 = 1,2,4
GCF of 4, 8, and 12 = 4

③ **12, 15**

factors of 12 = 1,2,3,4,6,12
factors of 15 = 1,3,5,15
common factors
of 12 and 15 = 1,3
GCF of 12 and 15 = 3

④ **10, 15, 20**

factors of 10 = 1,2,5,10
factors of 15 = 1,3,5,15
factors of 20 = 1,2,4,5,10,20
common factors of
10, 15 and 20 = 1,5
GCF of 10, 15, and 20 = 5

⑤ **18, 21**

factors of 18 = 1,2,3,6,9,18
factors of 21 = 1,3,7,21
common factors
of 18 and 21 = 1,3
GCF of 18 and 21 = 3

⑥ **8, 24**

factors of 8 = 1,2,4,8
factors of 24 = 1,2,3,4,6,8,12,24
common factors
of 8 and 24 = 1,2,4,8
GCF of 8 and 24 = 8

⑦ **6, 16, 24**

factors of 6 = 1,2,3,6
factors of 16 = 1,2,4,8,16
factors of 24 = 1,2,3,4,6,8,12,24
common factors of
6, 16 and 24 = 1,2
GCF of 6, 16, and 24 = 2

⑧ **6, 12, 18**

factors of 6 = 1,2,3,6
factors of 12 = 1,2,3,4,6,12
factors of 18 = 1,2,3,6,9,18
common factors of
6, 12 and 18 = 1,2,3,6
GCF of 6, 12, and 18 = 6

P.O. 5.06.04.02

NAME: ____________________ **CLASS:** ________ **DATE:** ____________

Complete the sentence.

To reduce fractions to lowest terms, we divide the numerator and the denominator by the G C F .

For each fraction below, write the greatest common factor of the numerator and the denominator. Then reduce each fraction to lowest terms.

① $\frac{3}{9} = \frac{1}{3}$ GCF = $\boxed{3}$

② $\frac{4}{20} = \frac{1}{5}$ GCF = $\boxed{4}$

③ $\frac{2}{12} = \frac{1}{6}$ GCF = $\boxed{2}$

④ $\frac{16}{24} = \frac{2}{3}$ GCF = $\boxed{8}$

⑤ $\frac{12}{21} = \frac{4}{7}$ GCF = $\boxed{3}$

⑥ $\frac{9}{27} = \frac{1}{3}$ GCF = $\boxed{9}$

⑦ $\frac{8}{18} = \frac{4}{9}$ GCF = $\boxed{2}$

⑧ $\frac{12}{28} = \frac{3}{7}$ GCF = $\boxed{4}$

⑨ $\frac{4}{16} = \frac{1}{4}$ GCF = $\boxed{4}$

⑩ $\frac{15}{18} = \frac{5}{6}$ GCF = $\boxed{3}$

Draw a ring around the fractions which are already expressed in lowest terms.

[✓ $\frac{3}{5}$] $\frac{12}{15}$ [✓ $\frac{7}{9}$] [✓ $\frac{11}{20}$] $\frac{14}{16}$ [✓ $\frac{19}{29}$] $\frac{6}{28}$ [✓ $\frac{5}{12}$]

P.O. 5.06.05.01,.02&.04

NAME: ______________________ **CLASS:** ________ **DATE:** __________

Complete each example. Express each sum or difference in lowest terms.

① $$\begin{array}{r} 6\frac{1}{4} \\ +2\frac{2}{4} \\ \hline 8\frac{3}{4} \end{array}$$

② $$\begin{array}{r} 3\frac{1}{3} \\ +2\frac{1}{3} \\ \hline 5\frac{2}{3} \end{array}$$

③ $$\begin{array}{r} 5\frac{1}{6} \\ +4\frac{3}{6} \\ \hline 9\frac{2}{3} \end{array}$$

④ $$\begin{array}{r} 5\frac{4}{5} \\ -2\frac{2}{5} \\ \hline 3\frac{2}{5} \end{array}$$

⑤ $$\begin{array}{r} 3\frac{3}{6} \\ -1\frac{2}{6} \\ \hline 2\frac{1}{6} \end{array}$$

⑥ $$\begin{array}{r} 8\frac{3}{4} \\ -5\frac{1}{4} \\ \hline 3\frac{1}{2} \end{array}$$

⑦ $$\begin{array}{r} 3\frac{3}{4} \\ -2\frac{1}{4} \\ \hline 1\frac{1}{2} \end{array}$$

⑧ $$\begin{array}{r} 3\frac{5}{8} \\ +3\frac{1}{8} \\ \hline 6\frac{3}{4} \end{array}$$

⑨ $$\begin{array}{r} 8\frac{7}{10} \\ -3\frac{2}{10} \\ \hline 5\frac{1}{2} \end{array}$$

Solve the problem below. solve

Jay lives $4\frac{1}{3}$ miles from the library and $1\frac{2}{3}$ miles from the playground. How much farther from Jay's house is the library than the playground?

The library is $2\frac{2}{3}$ miles farther away.

Do you remember?

Find the range and mean for Henry's weekly savings.

Week	Amount Saved That Week
1	$ 6.00
2	6.00
3	5.00
4	6.00
5	10.00
6	3.00

range = $7.00 mean = $6.00

P.O. 5.06.05.03-.04

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Complete each example.

① $5\frac{1}{6} = 4\frac{7}{6}$

$-3\frac{2}{6} = 3\frac{2}{6}$

$1\frac{5}{6}$

② $8\frac{2}{10}$

$-2\frac{7}{10}$

$5\frac{1}{2}$

③ $7\frac{2}{4}$

$-1\frac{3}{4}$

$5\frac{3}{4}$

④ $9\frac{2}{8}$

$-6\frac{6}{8}$

$2\frac{1}{2}$

⑤ $6\frac{1}{5}$

$-2\frac{3}{5}$

$3\frac{3}{5}$

⑥ $12\frac{2}{9}$

$-5\frac{8}{9}$

$6\frac{1}{3}$

Solve the word problems below.

① Anita prepared $6\frac{1}{3}$ quarts of lemonade and $3\frac{1}{3}$ quarts of iced tea. How many quarts did she prepare in all?

Anita prepared $\underline{9\frac{2}{3}}$ quarts in all.

② Fred drank $2\frac{1}{4}$ cups of iced tea and Ernie drank $3\frac{3}{4}$ cups of iced tea, and 1 cup of lemonade. How much more iced tea did Ernie drink than Frank?

Ernie drank $\underline{1\frac{1}{2}}$ cups more iced tea than Fred.

CHALLENGE!

Use the information from the list of ingredients to create and solve a word problem.

Ingredients for Lemonade

$3\frac{1}{4}$ lemons

$4\frac{1}{2}$ quarts of water

$1\frac{1}{4}$ cups of sugar

Answers will vary.

SHARPENING YOUR SKILLS

Units 28, 29, 30

Name: ____________________ Class: ____________ Date: ________

1. Draw a ring around the numerals below which represent prime numbers.

[✓ 17] 20 10 8 [✓ 3] [✓ 5] 9

12 [✓ 2] 4 [✓ 11] 21 50 [✓ 31]

2. A prime number has ________.

ⓐ no factors

● exactly two factors

ⓒ more than two factors

ⓓ one factor

3. Which of the following shows the prime factors of 18?

ⓔ 3 x 2 x 2

ⓕ 2 x 2 x 2 x 2

ⓖ 3 x 3 x 3

● 3 x 3 x 2

4. Rename 24 as a product of its primes.

24 = 2x2x2x3

5. The GCF of 10 and 15 is ____.

ⓐ 10 ⓒ 2

ⓑ 15 ● 5

6. The GCF of 12 and 18 is ____.

ⓔ 12 ⓖ 3

ⓕ 2 ● Not Here

7. Reduce the following fractions to lowest terms.

$\frac{2}{10} = \boxed{\frac{1}{5}}$

$\frac{4}{20} = \boxed{\frac{1}{5}}$

$\frac{6}{14} = \boxed{\frac{3}{7}}$

$\frac{8}{12} = \boxed{\frac{2}{3}}$

8.

$$\begin{array}{r} 7\frac{7}{10} \\ -3\frac{1}{10} \\ \hline \end{array}$$

ⓐ $10\frac{4}{5}$ ⓒ 4

ⓑ $3\frac{6}{10}$ ● $4\frac{3}{5}$

9. Add. Express the sum in lowest terms.

$$\begin{array}{r} 3\frac{1}{6} \\ +4\frac{1}{6} \\ \hline 7\frac{1}{3} \end{array}$$

10. Janice bought $5\frac{3}{8}$ yards of material. She used $2\frac{7}{8}$ yards to make a dress. How many yards of material does she have left?

$2\frac{1}{2}$ yards.

P.O.5.13.02.01

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Facts to Know
1 decade = 10 years
1 pound = 16 ounces
2 cups = 1 pint
1760 yards = 1 mile

1. Connie served a 2 lb roast. If four people share the roast equally, how many ounces will each person eat? solve check

Each person will eat 8 ounces of roast.

Fact to know: 1 lb = 16 oz

2. If Linda jogs 2 miles a day for three days, how many yards will she jog in all? solve check

Linda will jog 10,560 yards.

Fact to know: 1,760 yd = 1 mile

3. Louis' recipe calls for 5 pints of cream for 10 custard pies. If he wants to bake 3 custard pies, how many cups of cream will he need? solve check

He will need 3 cups of cream.

Fact to know: 2 cups = 1pint

4. Helen is $3\frac{1}{2}$ decades old. How old is Helen in years? solve check

Helen is 35 years old.

Fact to know: 1 decade = 10 years

P.O.5.13.02.02

NAME: ____________________ **CLASS:** ________ **DATE:** ____________

A. Complete all the examples.

① 8 pints = 4 quarts

② 12 feet = 4 yards

③ 10,560 feet = 2 miles

④ 12 quarts = 3 gallons

⑤ 26 weeks = $\frac{1}{2}$ year

⑥ 4 hours = 240 minutes

⑦ 36 months = 3 years

⑧ 16 ounces = 2 cups

⑨ 4 weeks = 28 days

⑩ 2 quarts = 4 pints

B. Solve the problems.

1. Billy has 3 weeks and 2 days left to complete a science project. How many days does he have left to complete the project?

He has 23 days left.

2. Charles has 2 quarts of orange soda and Sally has 1 quart of cherry soda. How many pints of soda do they have in all?

They have 6 pints of soda in all.

CHALLENGE!

Write a word problem which has an answer of 16 ounces.

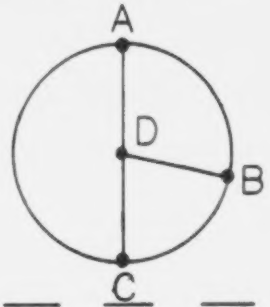
Answers will vary.

P.O. 5.09.04.01-.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

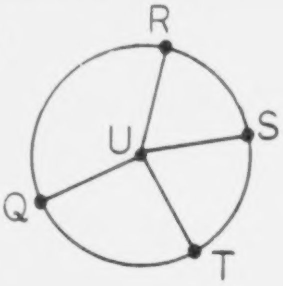
Identify the radii in each circle below.

①



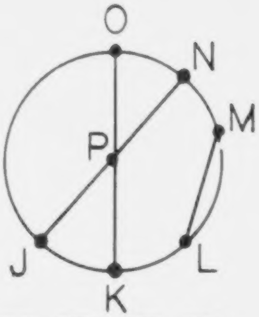
$\overline{AD}$, $\overline{DB}$, $\overline{CD}$

②



$\overline{QU}$, $\overline{RU}$, $\overline{SU}$, $\overline{TU}$

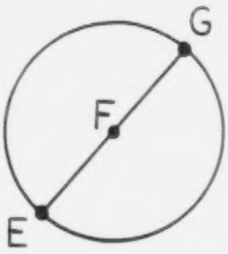
③



$\overline{JP}$, $\overline{KP}$, $\overline{OP}$, $\overline{NP}$

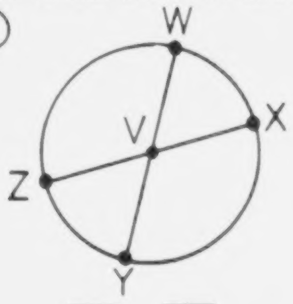
Identify the diameter(s) in each circle below.

④



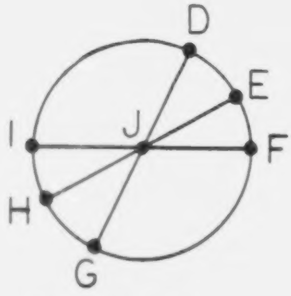
$\overline{EG}$

⑤



$\overline{WY}$ $\overline{XZ}$

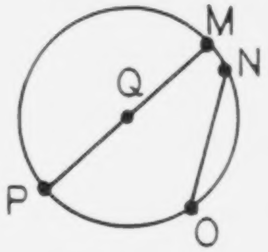
⑥



$\overline{IF}$ $\overline{HE}$ $\overline{GD}$

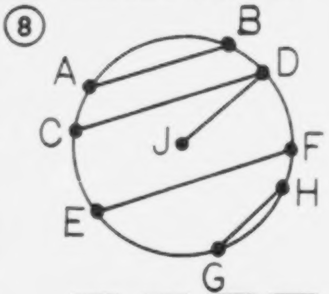
Identify the chords in each circle below.

⑦



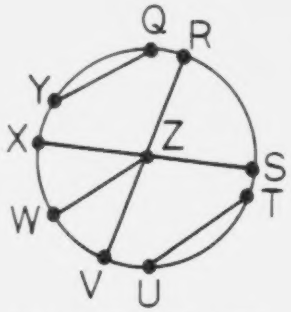
$\overline{PM}$ $\overline{NO}$

⑧



$\overline{AB}$, $\overline{CD}$, $\overline{EF}$, $\overline{GH}$

⑨



$\overline{YQ}$, $\overline{XS}$, $\overline{VR}$, $\overline{UT}$

Find the missing diameters and radii on the chart.

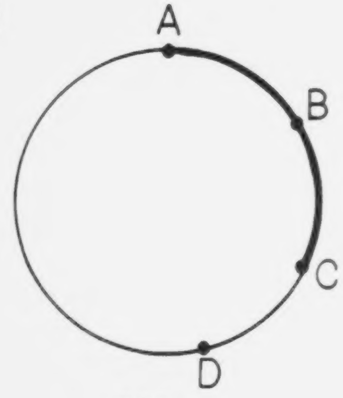
Radius	Diameter
5 cm	10 cm
3 cm	6 cm
12 in.	24 in
7 ft	14 ft
31 m	62 m

P.O. 5.09.04.04&.06

NAME: ______________________ **CLASS:** ________ **DATE:** ________

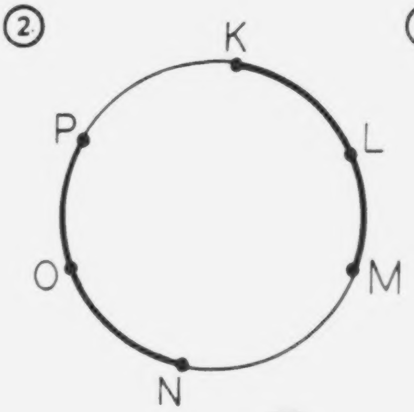
For each circle below, name the arc(s) shown by a bold line(s).

①



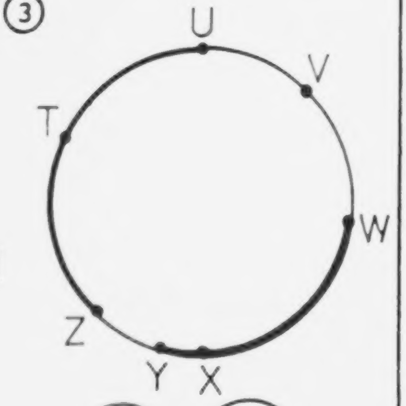
$\overset{\frown}{ABC}$

②



$\overset{\frown}{PON}$ $\overset{\frown}{KLM}$

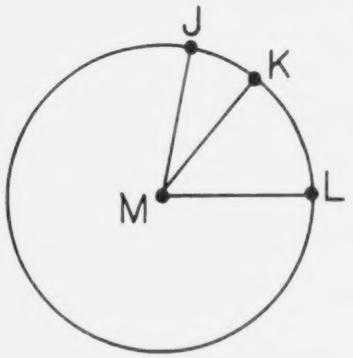
③



$\overset{\frown}{UTZ}$ $\overset{\frown}{WXY}$

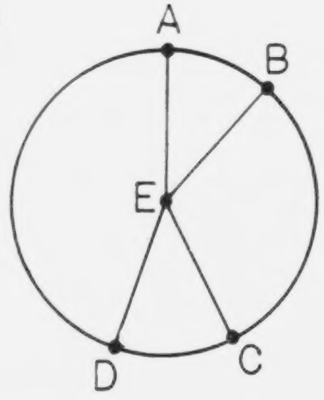
Name at least three different central angles for each circle below.

④



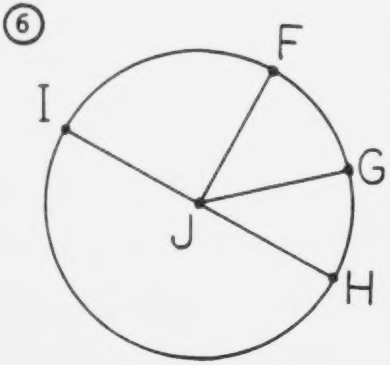
∢JML, ∢JMK, ∢KML

⑤



∢AEB ∢DEC ∢CEB
∢AEC ∢AED ∢BED

⑥



∢IJF ∢IJG ∢IJH
∢FJG ∢FJH ∢GJH

Do you remember?

$23\overline{)6072}$ = 264

check
264
X 23
792
5280
6072

$38\overline{)4829}$ = 127 R 3 or $127\frac{3}{38}$

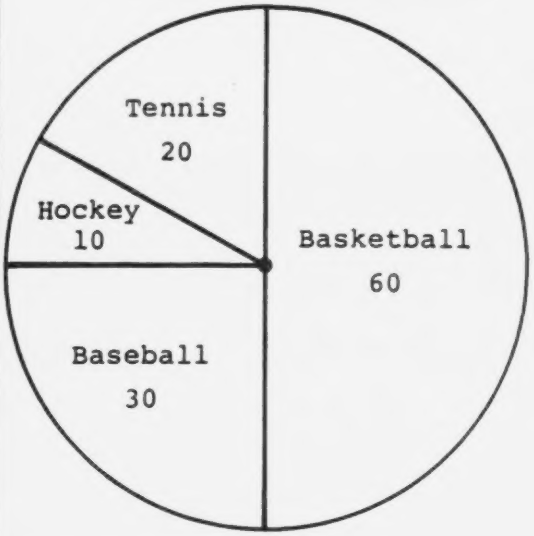
check
127
X 38
1016
3810
4826
+ 3
4829

P.O. 5.12.03.01

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

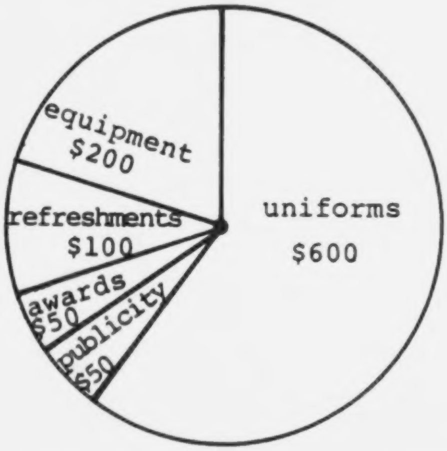
Use the circle graphs to answer the questions.

TEAM MEMBERSHIP AT THE GREENWOOD SCHOOL



1. Which team has the most members? Basketball
2. Which team has 10 more members than the hockey team? Tennis
3. How many more students play baseball than hockey? 20
4. What fractional part of the students play basketball? $\frac{1}{2}$
5. How many students play on teams in all? 120

BASEBALL TEAM'S YEARLY BUDGET



1. How much money is spent on team uniforms? $600
2. How much less is spent on awards than on equipment? $150
3. Which two expenses equal the amount spent on refreshments?
awards publicity
4. On which item is more than half the budget spent? uniforms
5. How much is the baseball team's budget? $1000

Do you remember?

Arrange the following fractions in order from the least to the greatest.

$\frac{1}{2}, \frac{3}{10}, \frac{2}{5}$ — $\frac{3}{10}, \frac{2}{5}, \frac{1}{2}$

$\frac{2}{3}, \frac{5}{6}, \frac{4}{9}$ — $\frac{4}{9}, \frac{2}{3}, \frac{5}{6}$

$\frac{3}{4}, \frac{4}{5}, \frac{1}{2}$ — $\frac{1}{2}, \frac{3}{4}, \frac{4}{5}$

$\frac{5}{8}, \frac{1}{4}, \frac{5}{12}$ — $\frac{1}{4}, \frac{5}{12}, \frac{5}{8}$

P.O. 5.12.03.02

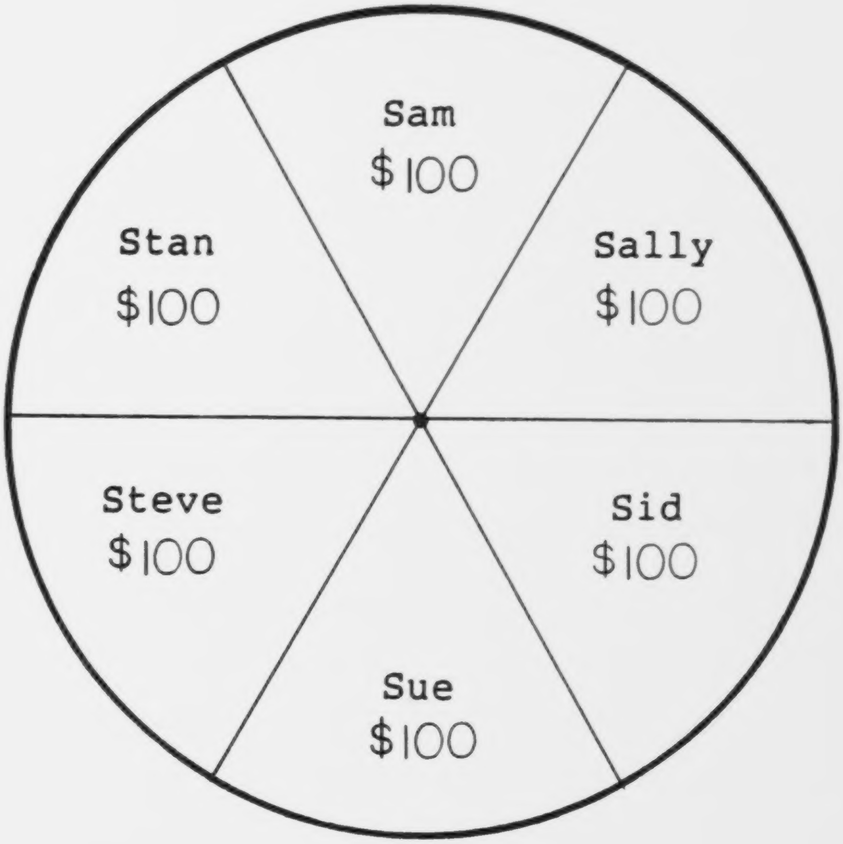
NAME: ______________________ **CLASS:** _______ **DATE:** ___________

The Stuart family inherited $600. Each of the six family members, Sam, Sally, Sue, Sid, Steve, and Stan will share the money equally. Make a circle graph showing each person's share of the $600.

How many equal sectors will be on this graph? 6.

The central angle for each sector is 60°.

TITLE: Stuart Family Inheritance



Create a question about the graph you made.

Answers will vary.

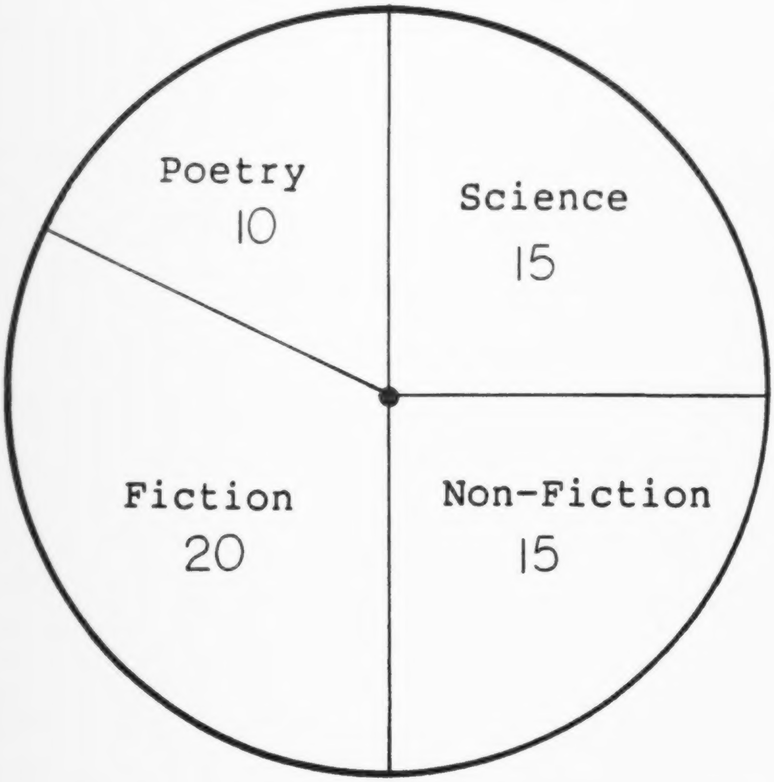
P.O. 5.12.03.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

The table below shows data about the 60 books in the class library. Use the data to construct a circle graph.

TYPE OF BOOK	NUMBER	FRACTION	CENTRAL ANGLE
Fiction	20	$\frac{20}{60} = \frac{1}{3}$	$\frac{1}{3}$ of 360° = 120°
Science	15	$\frac{15}{60} = \frac{1}{4}$	$\frac{1}{4}$ of 360° = 90°
Poetry	10	$\frac{10}{60} = \frac{1}{6}$	$\frac{1}{6}$ of 360° = 60°
Non-Fiction	15	$\frac{15}{60} = \frac{1}{4}$	$\frac{1}{4}$ of 360° = 90°

CLASS LIBRARY BOOKS



SHARPENING YOUR SKILLS

Units 31, 32, 33

Name: ____________________ **Class:** ____________ **Date:** ________

Write the information you must know before you can solve each problem below.

1. John packed seven dozen eggs on the supermarket shelves. How many eggs did he pack?

   You must know that there are 12 eggs in a dozen.

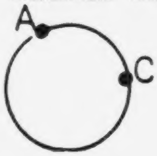
2. Vanessa is 62 inches tall. What is her height in feet and inches?

   You must know that there are 12 inches in one foot.

3. Keith mixed 12 quarts of lemonade for the game. How many gallon jugs can he fill?

   You must know that there are 4 quarts in a gallon.

4. Identify the circle with radius AC.



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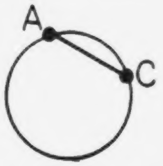

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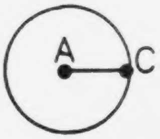
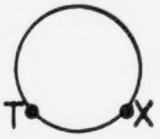
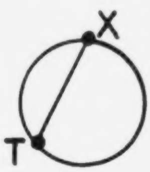


●

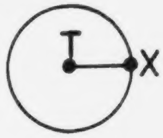
5. Identify the circle with chord TX.



ⓐ

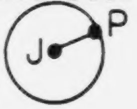


●

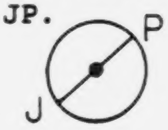


ⓒ

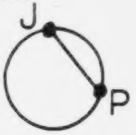
6. Identify the circle with diameter JP.



ⓐ

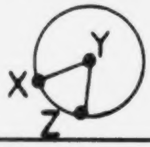


●



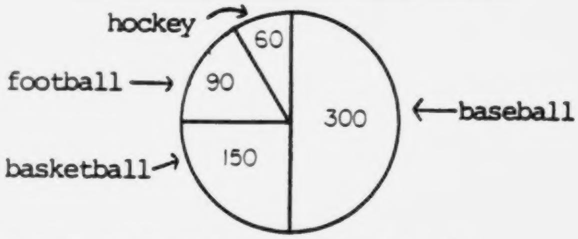
ⓒ

7. Which of the following identifies the central angle?



ⓐ ∡ ZXY
● ∡ XYZ
ⓒ ∡ XZY

Students' Favorite Sports



8. How many more students chose football than hockey?

30	60	90	150
●	ⓕ	ⓖ	ⓗ

9. Which fractional part of the students chose baseball as their favorite sport?

$\frac{1}{3}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$
ⓐ	ⓑ	●	ⓓ

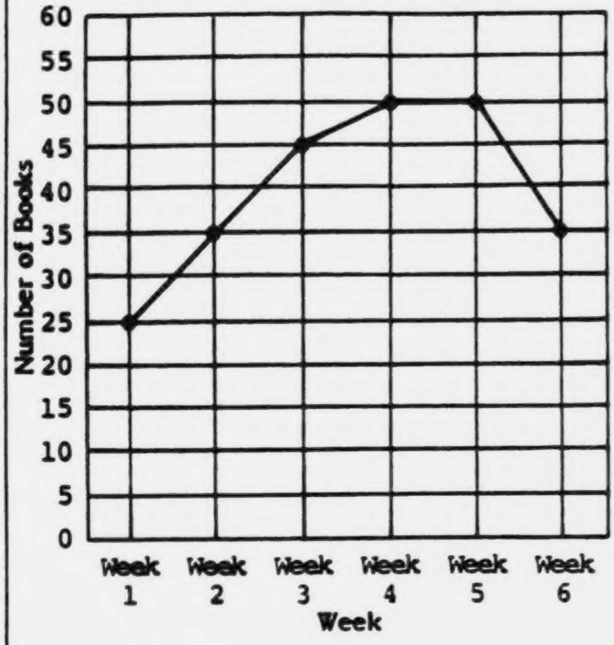
10. Which sport was chosen by one fourth of the students? basketball

P.O. 5.12.04.01

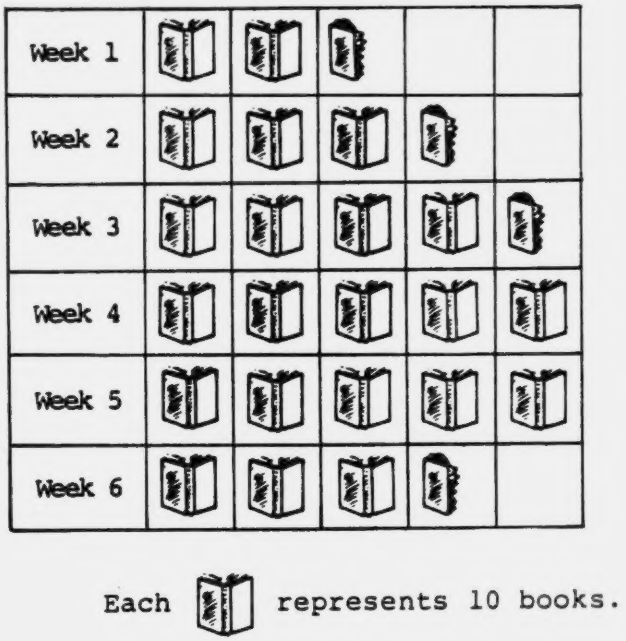
NAME: ______________________ **CLASS:** _______ **DATE:** ____________

Use the graphs below to answer the questions. Both graphs show the same data.

A. Number of Books Borrowed from the Class Library



B. Number of Books Borrowed from the Class Library



1. What kind of graph is graph A? line graph

2. What kind of graph is graph B? picture graph

3. How many books were borrowed during Week 3? 45

4. How many fewer books were borrowed during Week 6 than Week 5? 15

5. How many books were borrowed in all during Week 5 and Week 6? 85

6. On which graph can the data be read more quickly? line
Why? Amounts are on graph and need not be calculated.

7. During Week 7, fifty-one books were borrowed. On which graph would this be easier to show? line
Why? It's difficult to show $\frac{1}{10}$ of a book.

P.O. 5.12.04.02

NAME: ______________________ **CLASS:** ________ **DATE:** __________

The approximate lengths of some famous American rivers are: the Rio Grande, 1900 miles; the Mississippi River, 2300 miles; the Colorado River, 1500 miles; and the Snake River, 1000 miles.

Construct two different kinds of graphs to represent this data.

Graph 1

Graphs may vary.

Graph 2

P.O. 5.12.04.02

NAME: ______________________________ **CLASS:** _______ **DATE:** __________________

The Cover-to-Cover Book Store sold the following numbers of books: Monday, 30 books; Tuesday, 50 books; Wednesday, 70 books; Thursday, 70 books; Friday, 60 books; Saturday, 80 books.

Construct two different kinds of graphs to represent this data.

Graph 1

Graphs may vary.

Graph 2

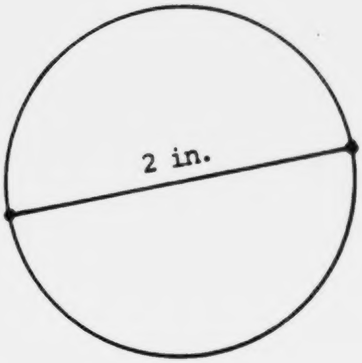
P.O. **5.10.04.01-.02**

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

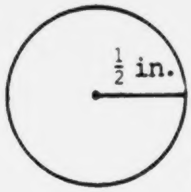
A. Define the circumference of a circle.

The circumference of a circle is the distance around the circle.

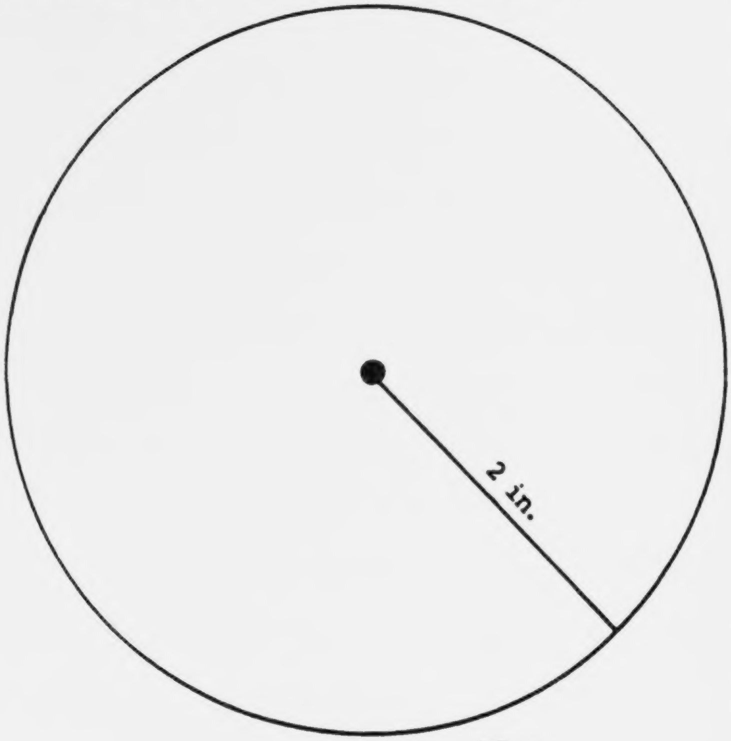
B. What is the approximate circumference of each circle below?



approximate circumference 6 in.



approximate circumference 3 in.



approximate circumference 12 in.

C. Complete the chart below.

radius	diameter	circumference
4 in.	8 in.	about 24 in.
5 in.	10 in.	about 30 in.
8 in.	16 in.	about 48 in.
5 in.	10 in.	about 30 in.

P.O. 5.02.01.01&.03

NAME: ______________ **CLASS:** ________ **DATE:** ____________

Estimate each sum by rounding the addends to the left-most place.

① 235,421 rounds to 200,000
86,930 rounds to 90,000
+ 41,266 rounds to 40,000
330,000

② 51,499 rounds to 50,000
28,307 rounds to 30,000
+153,608 rounds to 200,000
280,000

③ 397,990 rounds to 400,000
195,026 rounds to 200,000
37,519 rounds to 40,000
+ 9,086 rounds to 9,000
649,000

④ 56,279 rounds to 60,000
295,637 rounds to 300,000
149,318 rounds to 100,000
+ 75,011 rounds to 80,000
540,000

⑤ 8,766 rounds to 9,000
28,530 rounds to 30,600
71,219 rounds to 70,000
468,088 rounds to 500,000
+ 8,430 rounds to 8,000
617,000

⑥ 44,261 rounds to 40,000
39,820 rounds to 40,000
77,647 rounds to 80,000
31,486 rounds to 30,000
+ 14,503 rounds to 10,000
200,000

Solve each problem.

⑦ Ms. Green traveled 1359 miles from Boston to New Orleans. She then traveled 1171 miles from New Orleans to New York. From there she traveled 1092 miles to Miami. About how many miles did she travel in all?

3000 miles

⑧ A plane left New York and flew 6220 miles to Rio de Janeiro. It then flew 11,021 miles to Hong Kong and another 10,161 miles to Caracas. About how many miles did this plane fly?

26,000 miles

P.O. 5.02.01.02-.03

NAME: ______________________ **CLASS:** ________ **DATE:** __________

Find the sums.

①
41,353
2,867
41,600
+ 2,599
88,419

②
3,268
51,997
2,371
+88,324
145,960

③
721,536
21,471
58,234
+415,007
1,216,248

④
8,213
77,737
60,503
+357,914
504,367

⑤
37,100
217,945
60,432
+113,178
428,655

⑥
81,534
532,814
62,397
+ 5,593
682,338

Mixed Problem Solving

Use the chart to solve the problems below.

LARGEST CITIES IN NEW YORK STATE	
City	Population
New York City	7,086,096
Buffalo	348,035
Rochester	244,094
Yonkers	192,342
Syracuse	166,187
Albany	100,048

⑦ What is the combined population of Buffalo, Rochester, and Syracuse? 758,316

⑧ What is the combined population of the 4 smallest cities on the chart? 702,671

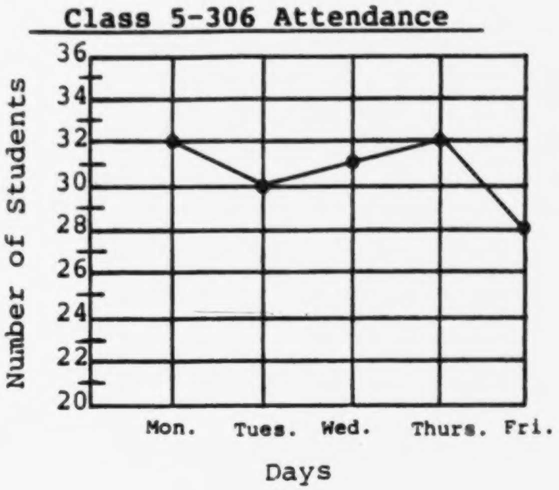
⑨ How much greater is the population of Buffalo than Yonkers? 155,693

⑩ If in the year 2,000, the population of Syracuse doubles and the population of Albany triples what will their combined populations be? 632,518

SHARPENING YOUR SKILLS

Units 34, 35, 36

Name: ____________ Class: ____________ Date: ________



1. How many students attended class on Tuesday?

ⓐ 32 ⓒ 31

● 30 ⓓ Not Here

2. On which day did the fewest students attend class?

ⓔ Monday ⓖ Tuesday

ⓕ Wednesday ● Friday

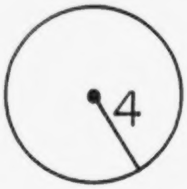
3. How many more students attended class on Monday than on Friday? 4

4. Exactly 3 more students attended class on Wednesday than on Friday.

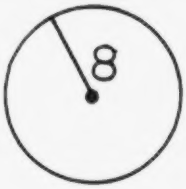
5. Given the diameter, find the approximate circumference.

Diameter = 4, Circumference = 12
Diameter = 7, Circumference = 21
Diameter = 1, Circumference = 3

6. Find the approximate circumference of each circle.



The circumference is about 24.



The circumference is about 48.

7.

```
  152,866
  217,135
+   1,979
 371,980
```

Money Spent for Books	
Literature	$7,806.92
Mathematics	4,167.85
Science	2,096.70
Social Studies	651.38

8. How much did the school spend for all the books? $14,722.85

9. How much more was spent for science books than for social studies books? $1445.32

P.O. 5.03.01.01,.02,&.04

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Estimate each difference. Then find the actual difference and check.

	estimate	solve	check
①	800,000 - 30,000 770,000	7 8 5 , 0 6 2 - 3 4 , 5 9 4 7 5 0 , 4 6 8	750,468 + 34,594 785,062
②	500,000 - 6,000 494 000	512,981 - 6,125 506,856	506,856 + 6,125 512,981
③	$5,000.00 - 100.00 $4,900.00	$4626.18 - 99.65 $4526.53	$4526.53 + 99.65 $4626.18
④	900,000 - 40,000 860,000	861,420 - 36,315 825,105	825,105 + 36,315 861,420
⑤	$ 3000.00 - 2000.00 $ 1000.00	$2591.06 - 1859.99 $ 731.07	$ 731.07 + 1859.99 $ 2591.06

B. Solve and check the problems below.

solve check

1. Mr. Sands earned $3927.66 during April and May. If he earned $1247.91 in April, how much did he earn in May?

He earned $2679.75 in May.

solve check

2. Ms. Jones wants to buy a car that costs $9924.88. She has saved $4279.89. How much more does she need to buy the car?

She needs $5644.99.

P.O. 5.03.01.03-.04

NAME: ______________________ **CLASS:** ______ **DATE:** __________

A. Find each difference and check.

		check
①	200,000 - 48,703 151,297	151,297 + 48,703 200,000
②	700,000 - 57,638 642,362	642,362 + 57,638 700,000
③	100,000 - 98,974 1,026	1,026 + 98,974 100,000
④	400,000 - 23,498 376,502	376,502 + 23,498 400,000
⑤	500,000 - 79,830 420,170	420,170 + 79,830 500,000
⑥	800,000 - 40,266 759,734	759,734 + 40,266 800,000
⑦	900,000 - 55,437 844,563	844,563 + 55,437 900,000
⑧	100,000 - 76,235 23,765	23,765 + 76,235 100,000

B. Solve and check the problems below.

solve check

1. Mrs. Bond inherited $1000.00. She spent $295.26 and put the rest of the money in the bank. How much did she put in the bank? $704.74

solve check

2. 200,000 copies of a newspaper were printed. If 86,219 copies were sold, how many were not sold? 113,781

Do you remember?

A farmer wants to put a fence around a field that is 300 feet long and 125 feet wide.

ⓐ How many feet of fencing will he need? 850 feet

ⓑ If the fence costs 22¢ per foot, how much will the entire fence cost? $187.00

CHALLENGE!

If the fence costs $2.20 per foot, how much will the entire fence cost? $1870.00

P.O. **5.04.02.01,.02,&.04**

NAME: ______________ **CLASS:** ________ **DATE:** ____________

A. Find each product. Look for a pattern.

①	②	③	④	⑤
100	200	300	400	500
x200	x200	x200	x200	x200
20,000	40,000	60,000	80,000	100,000

What pattern do you notice? The product has the same number of 0's as there are in both factors in all.

B. Estimate each product by rounding the factors.

①

488 rounds to 500
x314 rounds to x 300
150,000 estimated product

②

796 rounds to 800
x384 rounds to x 400
320,000 estimated product

③

632 rounds to 600
x297 rounds to x 300
180,000 estimated product

④

514 rounds to 500
x187 rounds to x 200
100,000 estimated product

C. Solve the problems below.

1. There are 144 pencils in a box. Our school ordered 286 boxes of pencils. About how many pencils were ordered? 30,000

solve

2. Our Scout troop sold 875 boxes of cookies at $2.25 a box. About how much money was earned selling cookies? $ 1,800.00

solve

P.O. 5.04.02.03-.04

NAME: ______________________ CLASS: ________ DATE: ________

A. Find each product.

① 578
x324
187,272

② 876
x251
219,876

③ 275
x106
29,150

④ 687
x132
90,684

⑤ 721
x235
169,435

⑥ 384
x255
97,920

⑦ 209
x147
30,723

⑧ 638
x442
281,996

⑨ 574
x421
241,654

B. Solve each problem below.

1. An electrician needs 153 meters of wire to wire a new house. How many meters will he need to wire 125 new houses of this type?

19,125 m

solve

2. If one meter of wire costs $1.19, how much will 153 meters cost?

$182.07

solve

C. Select one of the first 9 examples above and describe a situation that would lead to that calculation.

Answers will vary.

P.O. 5.05.03.01 &.03

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Find each quotient and check.

① $23\overline{)5888}$ = 256

check

$$\begin{array}{r} 256 \\ \times\ 23 \\ \hline 768 \\ 5{,}120 \\ \hline 5{,}888 \end{array}$$

② $59\overline{)7257}$ = 123

check

$$\begin{array}{r} 123 \\ \times\ 59 \\ \hline 1107 \\ 6150 \\ \hline 7257 \end{array}$$

③ $33\overline{)8755}$ = 265 R 10 or $265\frac{10}{33}$

check

$$\begin{array}{r} 265 \\ \times\ 33 \\ \hline 795 \\ 7950 \\ \hline 8745 \\ 10 \\ \hline 8755 \end{array}$$

④ $15\overline{)1125}$ = 75

check

$$\begin{array}{r} 75 \\ \times\ 15 \\ \hline 375 \\ 750 \\ \hline 1125 \end{array}$$

⑤ $28\overline{)1568}$ = 56

check

$$\begin{array}{r} 56 \\ \times\ 28 \\ \hline 448 \\ 1120 \\ \hline 1568 \end{array}$$

⑥ $45\overline{)9405}$ = 209

check

$$\begin{array}{r} 209 \\ \times\ 45 \\ \hline 1045 \\ 8360 \\ \hline 9405 \end{array}$$

Solve the problem below. solve check

⑦ Mr. Jackson drove 2950 miles on business last year. If his car goes 25 miles on one gallon of gas, how many gallons of gas did he use?

He used 118 gallons of gas.

⑧ **A.**

$$\begin{array}{r} 18 \\ 24\overline{)432} \\ -24 \\ \hline 192 \\ -192 \\ \hline 0 \end{array}$$

B.

$$\begin{array}{r} 18 \\ \times 24 \\ \hline 72 \\ 360 \\ \hline 432 \end{array}$$

Explain the relationship between problem A and problem B.

Problem B checks that the quotient in problem A is correct.

⑨ Select one of the first 6 examples above and, in your notebook, write a word problem which would require that calculation in its solution.

Word problems will vary.

P.O. 5.05.03.02-.03

NAME: ______________________ **CLASS:** ________ **DATE:** ________

Find each quotient and check.

① $21\overline{)81,711}$ = 3,891

check
3,891
X 21
3891
77820
81,711

② $34\overline{)18,471}$ = 543 R9 or $543\frac{9}{34}$

check
543
X 34
2172
16790
18462
9
18471

③ $72\overline{)11,750}$ = 163 R14 or $163\frac{14}{72}$

check
163
X 72
326
11410
11736
14
11,750

④ $39\overline{)78,438}$ = 2,011 R9 or $2,011\frac{9}{39}$

check
2,011
X 39
18,099
60,330
78,429
+ 9
78,438

⑤ $53\overline{)96,566}$ = 1,822

check
1822
X 53
5466
91100
96,566

⑥ $49\overline{)27,195}$ = 555

check
555
X 49
4,995
22,200
27,195

Solve the problem below.

solve check

7. Brown's Book Store sold 38 dictionaries for a total of $484.50. Find the cost of one dictionary.
One dictionary costs $12.75.

8. Select one of the 6 examples above and, in your notebook, write a word problem which would require that calculation to solve the problem.
Word problems will vary.

P.O. **5.05.03.03**

NAME: ______________________ **CLASS:** _______ **DATE:** ________

Mixed Problem Solving

① During the month of August, 97,774 people visited the Parkville Aquarium. What was the average number of visitors each day?

solve check

The average was 3154 visitors.

② The Quick Freeze Ice Pop Company packs 12 ice pops in each box. During July they made 19,584 ice pops. How many boxes did they use to pack the ice pops?

solve check

They used 1632 boxes.

③ If Jeffrey worked 25 hours last week and earned $106.25, what was his hourly wage?

solve check

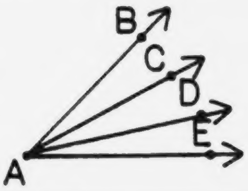
His hourly wage was $4.25.

④ Over a period of 17 days, a truck driver drove an average of 573 miles each day. What was the total mileage after 17 days?

solve check

The total was 9741 miles.

Do you remember?



Name all the angles using the angle symbol.

∢ BAC ∢ BAE ∢ CAE

∢ BAD ∢ CAD ∢ DAE

127

SHARPENING YOUR SKILLS

Units 37, 38, 39

Name: ______________ **Class:** __________ **Date:** ________

1. Which is the best estimate?

$$\begin{array}{r} 562{,}263 \\ \underline{-\ 26{,}542} \end{array}$$

ⓐ 470,000 ⓒ 540,000

● 570,000 ⓓ 30,000

2. Solve and check.

	check
600,000	571,957
- 28,043	28,043
571,957	600,000

3.

$$\begin{array}{r} \$6.42 \\ \underline{\times\ \ 137} \end{array}$$

ⓐ 87,954 ● $879.54

ⓑ $7.79 ⓓ 87.954

4. Mr. Jackson earned $2487.94 in January and $2109.69 in February. How much more did he earn in January than in February?

ⓔ $4597.63 ● $378.25

ⓕ $382.35 ⓗ Not Here

5. Complete each of the following.

300 x 500 = 150,000

400 x 200 = 80,000

400 x 500 = 200,000

6 Round each factor to estimate the product.

		estimate
563	rounds to	600
x142	rounds to	x 100
		60,000

7. Phyllis sold 532 tickets to her school's talent show. If each ticket cost $1.50, how much money did Phyllis collect?

ⓐ $79.80 ● $798.00

ⓑ $271.32 ⓓ Not Here

8. $25\overline{)6950}$

● 278 ⓖ $278\frac{1}{5}$

ⓕ 268 ⓗ Not Here

9. $29\overline{)93{,}210}$

ⓐ $3314\frac{2}{29}$ ⓒ $3215\frac{1}{29}$

● $3214\frac{4}{29}$ ⓓ Not Here

P.O. 5.01.04.01-.02

NAME: ______________________ CLASS: _______ DATE: ____________

A. Use the word box below to help you complete each sentence.

exponent	base	exponential
factors	product	standard

1. Some numbers can be written as a product of the same factors.
2. The numeral 4^3 is written in exponential form.
3. In the numeral 2^5, the 2 is the base.
4. In 5^3, the 3 is the exponent.

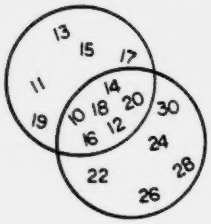
B. Express each numeral in standard form.

			Answer
a.	3^2 =	3 X 3	9
b.	4^2 =	4 X 4	16
c.	2^3 =	2 X 2 X 2	8
d.	5^3 =	5 X 5 X 5	125
e.	4^3 =	4 X 4 X 4	64
f.	2^5 =	2 X 2 X 2 X 2 X 2	32

Do you remember?

List the members of A, B, and C, using set notation. Then draw a Venn diagram to show the relationship between these sets.

Set A is the set of numbers from 10 through 20.
A = {10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20}
Set B is the set of even numbers from 10 through 30.
B = {10, 12, 14, 16, 18, 20, 22, 24, 26, 30}
Set C is the intersection of Set A and Set B.
C = {10, 12, 14, 16, 18, 20}



P.O. 5.01.04.03-.04

NAME: ______________ **CLASS:** ________ **DATE:** ____________

The base is repeated as a factor. $\longrightarrow 10^4 \longleftarrow$ **The exponent tells the number of times the base is used as a factor.**

A. Complete the following.

10^4 is read as ten to the fourth power.

10^4 = 10 x 10 x 10 x 10 = 10,000

B. Complete the chart. Look for a pattern.

Exponential Form	Factors	Standard Form
10^5	10×10×10×10×10	100,000
10^4	10 × 10 × 10 × 10	10,000
10^3	10 × 10 × 10	1,000
10^2	10 × 10	100
10^1	10	10
10^0	1	1

What is the relationship between the exponent and the number of zeros in the standard numeral? The exponent tells the number of zeros there are in the standard numeral.

C. Express the following powers of ten in exponential form.

a. 1000 = 10^3

b. 10,000 = 10^4

c. 100,000 = 10^5

d. 10 = 10^1

e. 100 = 10^2

f. 1 = 10^0

CHALLENGE!

Use a calculator to compute the value of each:

ⓐ 7^5 = 16,807

ⓑ 3^7 = 2,187

ⓒ 2^7 = 128

ⓓ 4^5 = 1,024

ⓔ 8^4 = 4,096

ⓕ 5^5 = 3,125

P.O. 5.01.05.01

NAME: __________ **CLASS:** ______ **DATE:** ________

A. Complete the sentence next to each numeral.

① 41,207,698 The digit 1 is in the millions place and has a value of 1,000,000.

② 159,800,216 The digit 5 is in the ten millions place and has a value of 50,000,000.

③ 77,530,684 The digit 3 is in the ten thousands place and has a value of 30,000.

④ 384,927,510 The digit 3 is in the hundred millions place and has a value of 300,000,000.

⑤ 720,123,864 The digit 8 is in the hundreds place and has a value of 800.

⑥ 8,765,432 The digit 7 is in the hundred thousands place and has a value of 700,000.

⑦ 57,003,493 The digit 4 is in the hundreds place and has a value of 400.

⑧ 694,273,185 The digit 6 is in the hundred millions place and has a value of 600,000,000.

⑨ 792,039,484 The digit 2 is in the millions place and has a value of 2,000,000.

⑩ 970,642,653 The digit 9 is in the hundred millions place and has a value of 900,000,000.

B. Write the numeral described below.

a. It has a 7 in the hundreds place.
b. It has a 5 in the ones place and in the ten millions place
c. It has a 0 in the millions place.
d. It has a 9 in the ten thousands place and in the thousands place
e. It has a 4 in the tens place.
f. It has a 1 in the hundred thousands place.

5 0, 1 9 9, 7 4 5

P.O. 5.01.05.02-.03

NAME: ________

CLASS: ________

DATE: ________

A. Write each of the following numerals in expanded form.

① 2,374,436 = 2,000,000 + 300,000 + 70,000 + 4000 + 400 + 30 + 6

② 25,600,123 = 20,000,000 + 5,000,000 + 600,000 + 100 + 20 + 3

③ 86,219,405 = 80,000,000 + 6,000,000 + 200,000 + 10,000 + 9000 + 400 + 5

④ 139,271,486 = 100,000,000 + 30,000,000 + 9,000,000 + 200,000 + 70,000 + 1000 + 400 + 80 + 6

B. Write each of the following in standard form.

① 20,000,000 + 4,000,000 + 300,000 + 60,000 + 1,000 + 900 + 70 + 6 = 24,361,976

② 4,000,000 + 800,000 + 4,000 + 700 + 60 + 8 = 4,804,768

③ 700,000,000 + 40,000,000 + 6,000,000 + 80,000 + 400 + 80 + 3 = 746,080,483

C. Write each of the following in standard form.

① $(3x10^{6}) + (7x10^{5}) + (3x10^{4}) + (1x10^{3}) + (2x10^{2}) + (0x10^{1}) + (5x10^{0})$ = 3,731,205

② $(2x10^{7}) + (1x10^{6}) + (5x10^{5}) + (6x10^{4}) + (3x10^{3}) + (1x10^{2}) + (9x10^{1}) + (4x10^{0})$ = 21,563,194

③ $(7x10^{9}) + (4x10^{8}) + (0x10^{7}) + (2x10^{6}) + (3x10^{5}) + (8x10^{4}) + (0x10^{3}) + (0x10^{2})$
$+ (7x10^{1}) + (1x10^{0})$ = 7,402,380,071

④ $(5x10^{8}) + (3x10^{7}) + (2x10^{6}) + (4x10^{5}) + (2x10^{4}) + (7x10^{3}) + (9x10^{2}) + (5x10^{1})$
$+ (3x10^{0})$ = 532,427,953

P.O. 5.01.05.04-.05

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Write the symbol > or < to complete each of the following.

① 4,632,189 < 25,061,263

② 269,018 < 271,475

③ 26,087,165 > 26,078,290

④ 368,045,106 > 365,000,000

⑤ 7,291,804 < 7,299,106

⑥ 3,746,099 < 18,369,177

⑦ 1,234,728 > 1,234,722

⑧ 84,325,065 < 84,357,698

B. Write the following in standard form.

① seven million, five hundred twenty-six thousand, eighteen = 7,526,018

② four hundred thirty-one million, eight hundred ninety-six thousand, two hundred seventy-six = 431,896,276

③ eighty-five million, two thousand, one hundred sixty-four = 85,002,164

④ ninety-two million, four hundred five thousand, two hundred sixty-two = 92,405,262

⑤ seven hundred thirty-six million, one hundred eleven thousand, five hundred forty-nine = 736,111,549

CHALLENGE!

a. Write the numeral that is two hundred million greater than 176,245,818. 376,245,818

b. Write the numeral that is five million less than 89,543,227.
84,543,227

c. Write the numeral that is 70 million more than 15,635,086.
85,635,086

P.O. 5.11.01.01-.02

NAME: ______________________________ **CLASS:** _______ **DATE:** ______________

A. Complete the equations below using the correct order of operations.

① $3 + 4 \times 2 = \boxed{11}$

② $45 \div 5 + 3 = \boxed{12}$

③ $2 + 5^2 \times 3 = \boxed{77}$

④ $2^3 + 8 \div 4 - 7 = \boxed{3}$

⑤ $10 - 5 \times 0 = \boxed{10}$

⑥ $(3 + 4) \times (8 - 2) = \boxed{42}$

⑦ $(7 - 3) \times 2^2 - 3 = \boxed{13}$

⑧ $3 \times 7 + 4 - 2^2 = \boxed{21}$

⑨ $(4 + 6) \times 3 - (8 + 14) = \boxed{8}$

⑩ $9 \times 7^2 + 6 = \boxed{447}$

⑪ $18 + 6 \div 2 = \boxed{21}$

⑫ $6^2 - (6 \div 2) \times 5 = \boxed{21}$

⑬ $4^2 - (2 \times 5) \div 5 = \boxed{14}$

⑭ $(10^2 + 8) \div 4 = \boxed{27}$

⑮ $36 + 6 \times 2 = \boxed{48}$

⑯ $2 + 7 \times (8 - 4) + 2^3 = \boxed{38}$

⑰ $4^3 - 12 \times 3 + 4 \div 2 = \boxed{30}$

⑱ $(5 + 8) + (4 \times 2^3) = \boxed{45}$

CHALLENGE!

Can you add parentheses to this expression to make the value 18?

$$3 + 6 \times (2^3 - 3) \div 2$$

SHARPENING YOUR SKILLS

Units 40, 41, 42

Name: ____________________ **Class:** ____________ **Date:** ________

1. 5^3 = ________

ⓐ 5x3 ⓒ 3x5

● 5x5x5 ⓓ 3x3x3x3x3

2. Write >, < or = to complete each number sentence below.

2^3 < 5^2 3^2 > 4^1

1^4 = 4^0 3^4 > 4^3

3. If 10^3 = 1000, than 10^4 = ____.

ⓔ 100 ● 10,000

ⓕ 10 ⓗ 100,000

4. Which is the missing exponent?

$100{,}000 = 10^{\square}$

ⓐ 2 ⓒ 4

ⓑ 3 ● 5

5. $7\underline{5}4{,}635{,}421$

The underlined digit is equal in value to ________.

ⓔ 500,000 ⓖ 5,000,000

● 50,000,000 ⓗ 500,000,000

6. Write the following numeral in words.

6,300,503 = six million,
three hundred thousand,
five hundred three

7. Write > or < to compare each pair of numbers.

506,728,218 > 506,005,142

132,542,007 > 132,542,006

728,162,154 < 827,261,451

8. Write the following numeral in expanded form.

526,300,621 = 500,000,000 +
20,000,000 + 6,000,000 +
300,000 + 600 +
20 + 1

9. Evaluate each expression.

$5^2 + 6 + 3 - 4 \times 3 = \boxed{15}$

$15 - 3 + 4 - 2 = \boxed{14}$

$3^2 - (6 + 4) + 2 = \boxed{4}$

10. Write the following numeral in standard form.

6,000,000 + 400,000 + 3,000 +
200 + 60 + 9 = 6,403,269

P.O. 5.13.03.01-.02

NAME: ____________________ CLASS: ________ DATE: ____________

A. **Solve the problem below by first solving a simpler, but similar, problem.**

Find the sum of the first 50 numbers.

Hint: Start with similar simpler problems. Look for a pattern.

First 2 = 1 + 2 = 3 $\frac{2\text{x}3}{2} = 3$

First 3 = 1 + 2 + 3 = 6 $\frac{3\text{x}4}{2} = 6$

First 4 = 1 + 2 + 3 + 4 = 10 $\frac{4\text{x}5}{2} = 10$

First 5 = 1 + 2 + 3 + 4 + 5 = 15 $\frac{5\text{x}6}{2} = 15$

$$\frac{50\text{x}51}{2} = 1275$$

Prediction:

The sum of the first 50 numbers is 1,275.

B. **Write and solve your own problem which can be made easier by solving a simpler problem.**

Answers will vary.

P.O. 5.12.05.01-.02

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

A. For an experiment where one die is tossed, tell whether each statement is certain, possible, or impossible.

① rolling a 6 POSSIBLE

② rolling a one possible

③ rolling a 12 impossible

④ rolling a number less than 7 certain

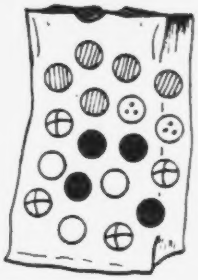
⑤ rolling an even number possible

⑥ rolling a prime number possible

⑦ rolling an odd number greater than 11 impossible

⑧ rolling a number greater than zero certain

B. There are 4 red marbles, 4 blue marbles, 3 white marbles, 5 green marbles, and 2 yellow marbles in the bag. For each pair of events, state whether they are equally likely or not equally likely to occur if we were to pick a marble out of the bag without looking.



● red marble

⊙ yellow marble

▨ green marble

⊕ blue marble

○ white marble

① picking a red marble or a white marble	not equally likely
② picking a blue marble or a white marble	not equally likely
③ picking a red marble or a blue marble	equally likely
④ picking a white marble or a yellow marble	not equally likely
⑤ picking a green marble or a blue marble	not equally likely

CHALLENGE!

Using blue chips, black chips, and green chips, place 10 chips in a bag so that all three conditions below are met at the same time.

a) picking a blue chip or a black chip is equally likely

b) picking a green chip or a black chip is not equally likely

c) picking a green chip or a blue chip is not equally likely

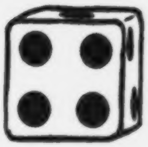
Tell how many of each color will be in the bag. Answers may vary

P.O. 5.12.05.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

For each experiment list all the elements of the sample space. Then check the correct box to tell whether the outcomes are equally likely or not equally likely to occur.

1. Experiment: rolling 1 die



Sample Space: 1, 2, 3, 4, 5, 6

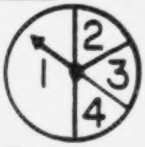
all equally likely ☑ not all equally likely ☐

2. Experiment: tossing a coin

Sample Space: Heads, Tails

all equally likely ☑ not all equally likely ☐

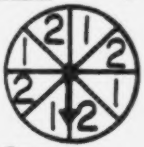
3. Experiment: spinning this spinner



Sample Space: 1, 2, 3, 4

all equally likely ☐ not all equally likely ☑

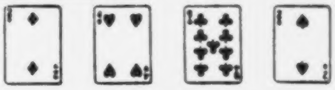
4. Experiment: spinning this spinner



Sample Space: 1, 2

all equally likely ☑ not all equally likely ☐

5. Experiment: picking a card from this group



Sample Space: 2♦ 4♥ 9♣ 2♠

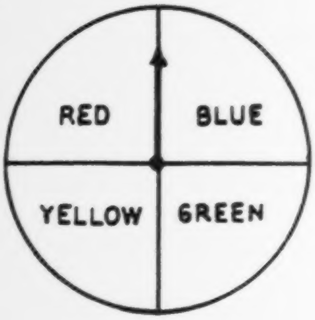
all equally likely ☑ not all equally likely ☐

P.O. 5.12.05.04

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Write the probability of each event happening.

Ⓐ



a) the probability of the spinner landing on yellow $\frac{1}{4}$

b) the probability of the spinner landing on blue $\frac{1}{4}$

c) the probability of the spinner not landing on green $\frac{3}{4}$

d) the probability of the spinner landing on purple 0

Ⓑ Rolling one die:

a) the probability of getting 3 $\frac{1}{6}$

b) the probability of getting 7 0

c) the probability of getting an even number $\frac{3}{6}$

d) the probability of getting at least a 1 $\frac{6}{6}$ or 1

e) the probability of getting a prime number $\frac{3}{6}$

Ⓒ There are 30 children in the 5th grade class. 17 of them are boys. You pick one student. Find:

a) the probability of picking a boy $\frac{17}{30}$

b) the probability of picking a girl $\frac{13}{30}$

c) the probability of picking a 6th grader 0

Do you remember?

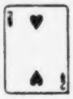
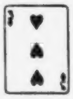
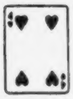
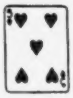
Express each fraction below in lowest terms.

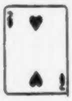
ⓐ $\frac{2}{6} = \boxed{\frac{1}{3}}$ ⓑ $\frac{5}{10} = \boxed{\frac{1}{2}}$ ⓒ $\frac{6}{24} = \boxed{\frac{1}{4}}$ ⓓ $\frac{10}{50} = \boxed{\frac{1}{5}}$

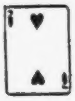
ⓔ $\frac{3}{18} = \boxed{\frac{1}{6}}$ ⓕ $\frac{4}{20} = \boxed{\frac{1}{5}}$ ⓖ $\frac{6}{14} = \boxed{\frac{3}{7}}$ ⓗ $\frac{10}{25} = \boxed{\frac{2}{5}}$

P.O. 5.12.05.05

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

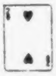
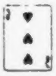
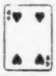
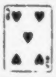
If you were to select the following four cards,    ,

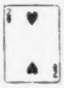
and shuffle them, what is the probability of picking the  from this set of four cards without looking? $\frac{1}{4}$

If we conduct this experiment 100 times, about how many times do you think you will pick the  ? about 25

Now conduct the experiment 100 times. Remember to make a tally mark for each card you pick, replace the card, and shuffle them before you pick again.

TALLY

	
	
	
	Answers may vary

How many times did you actually pick the  ? ____________

How does this compare to your prediction? ____________

____

Do you remember?

Rename each composite number below as a product of its primes.

28 = 2 × 2 × 7 30 = 2 × 3 × 5 12 = 2 × 2 × 3 16 = 2 × 2 × 2 × 2

P.O. 5.07.04.01-.02

NAME: ______________ **CLASS:** ________ **DATE:** ________

A. Complete each number sentence.

① 10 x 0.4 = 4

② 100 x 1.233 = 123.3

③ 10 x 0.42 = 4.2

④ 10 x 3.25 = 32.5

⑤ 10 x 1.58 = 15.8

⑥ 100 x 36.2 = 3620

⑦ 100 x 2.004 = 200.4

⑧ 10 x 8.67 = 86.7

⑨ 10 x 0.08 = 0.8

⑩ 100 x 65.89 = 6589

B. Compute each product. Locate that solution in the coded message box. Write the letter or symbol of the example in the blank space to discover the secret message.

Ⓝ 2.03 x 4 8.12	Ⓦ 0.6 x0.2 0.12	Ⓑ 3.61 x 0.5 1.805
Ⓛ 1.42 x 0.3 0.426	Ⓙ 7.3 x0.5 3.65	Ⓔ 7.362 x 2 14.724
Ⓞ 0.98 x 0.2 0.196	(!) 12.13 x 0.6 7.278	Ⓓ 10.71 x 0.4 4.284

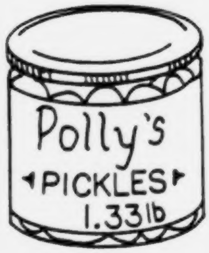
CODED MESSAGE BOX

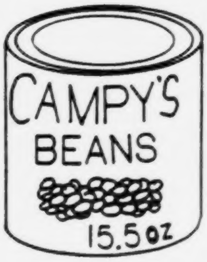
J	O	B		
3.65	0.196	1.805		
W	E	L	L	
0.12	14.724	0.426	0.426	
D	O	N	E	!
4.284	0.196	8.12	14.724	7.278

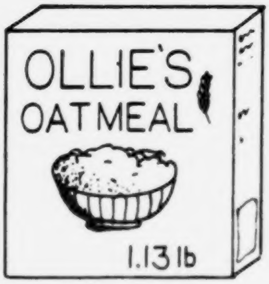
P.O. 5.07.04.03

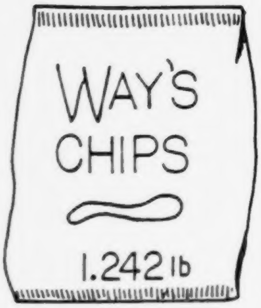
NAME: ____________________ **CLASS:** ________ **DATE:** ____________

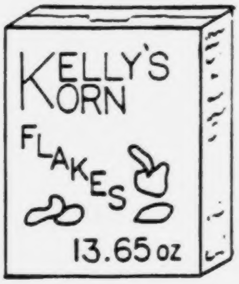
HARRY'S GROCERY STORE

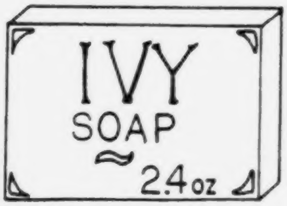

Polly's
PICKLES
1.33 lb

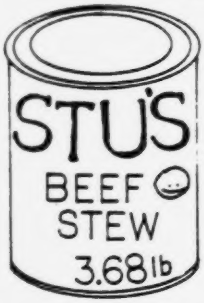

CAMPY'S
BEANS
15.5 oz


OLLIE'S
OATMEAL
1.13 lb


WAY'S
CHIPS
1.242 lb


KELLY'S
KORN
FLAKES
13.65 oz


IVY
SOAP
2.4 oz


STU'S
BEEF
STEW
3.68 lb

Harry has just received a delivery of grocery items. Help Harry find the total weight of each carton delivered.

1. Polly's Pickles: 10 jars in a carton total weight = 13.3 lb
2. Ivy Soap: 100 bars in a carton total weight = 240 oz
3. Campy's Beans: 25 cans in a carton total weight = 387.5 oz
4. Stu's Beef Stew: 16 cans in a carton total weight = 58.88 lb
5. Kelly's Korn Flakes: 24 boxes in a carton total weight = 327.6 oz
6. Way's Chips: 10 bags in a carton total weight = 12.42 lb
   If the carton is only 0.7 full, how many pounds would it weigh? 8.694 lb
7. Ollie's Oatmeal: 8 boxes in a carton total weight = 9.04 lb
   How much will 2.5 cartons weigh? 22.6 lb

CHALLENGE! Answers may vary.

In your notebooks, make up a shopping order involving some, or all, of the items pictured above. You may wish to order a different number of each. Determine the total weight of the package.

total weight = ______

SHARPENING YOUR SKILLS

Units 43, 44, 45

Name: ____________ **Class:** ____________ **Date:** ____________

1. How many different ways can 5 students be arranged on line?

   120 arrangements

2. A bag contains a red marble, a blue marble, a green marble, and a yellow marble. Describe an event which is possible, one that is impossible, and one that is certain, assuming that a person reaches into the bag and selects a marble without looking.

   possible: Answers may vary.

   impossible: ____________

   certain: ____________

3. When rolling one die, which of the following pairs of outcomes are equally likely to occur?

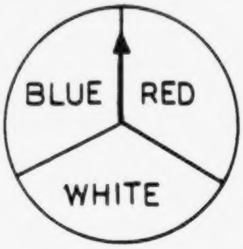
   ● getting an odd number; getting an even number

   ⓑ getting a prime number; getting a 4

   ⓒ getting an odd number; getting a 6

   ⓓ getting 1; getting a number greater than 2

4. Which of the following sets of outcomes is the sample space for this spinner?



   ⓔ {blue}

   ⓕ {white}

   ⓖ {red, blue, white, green}

   ● {blue, white, red}

5. What is the probability of picking a red block from a bag containing 3 red blocks and 7 blue blocks?

   ⓐ p(red) = 3 ⓒ $P(\text{red}) = \frac{7}{10}$

   ⓑ $P(\text{red}) = \frac{3}{7}$ ● Not Here

6. What is the probability of picking a blue sock from a drawer containing 6 blue socks and 6 gray socks?

   $P(\text{blue}) = \frac{6}{12} = \frac{1}{2}$

7. Complete the following:

   10 x 0.4 = 4
   10 x 1.2 = 12
   100 x 3.1 = 310
   100 x 0.03 = 3

8.
$$\begin{array}{r} 2.43 \\ \times\ 0.6 \\ \hline 1.458 \end{array}$$

P.O. 5.06.06.01

NAME: ____________________ **CLASS:** ________ **DATE:** ____________

Find the LCM (least common multiple) for each pair or group of numbers below.

1. $\boxed{4,5}$

set of multiples of 4 = {4,8,12,16,20...}
set of multiples of 5 = {5,10,15,20...}
set of common multiples
of 4 and 5 = {20...}
LCM = 20

2. $\boxed{3,5}$

LCM = 15

3. $\boxed{6,9}$

LCM = 18

4. $\boxed{6,10}$

LCM = 30

5. $\boxed{2,4,6}$

LCM = 12

6. $\boxed{3,4,8}$

LCM = 24

Do you remember?

Complete each example. Express each sum or difference in lowest terms.

① $\begin{array}{r} 3\frac{3}{8} \\ +5\frac{6}{8} \\ \hline 9\frac{1}{8} \end{array}$

② $\begin{array}{r} 7\frac{1}{3} \\ -2\frac{2}{3} \\ \hline 4\frac{2}{3} \end{array}$

③ $\begin{array}{r} 5\frac{7}{8} \\ -2\frac{3}{8} \\ \hline 3\frac{1}{2} \end{array}$

④ $\begin{array}{r} 6\frac{2}{10} \\ +7\frac{6}{10} \\ \hline 13\frac{4}{5} \end{array}$

P.O. 5.06.06.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Rename each pair or group of fractions as equivalent fractions with common denominators.

① $\boxed{\frac{1}{2}, \frac{2}{3}}$ $\frac{1}{2} = \frac{3}{6}$ $\frac{2}{3} = \frac{4}{6}$	**LCM** set of multiples of 2 = {2, 4, 6, 8, 10, ...} set of multiples of 3 = {3, 6, 9, 12, 15, ...} LCM of 2 and 3 = 6	$\frac{1}{2} = \boxed{\frac{3}{6}}$ $\frac{2}{3} = \boxed{\frac{4}{6}}$
② $\boxed{\frac{3}{5}, \frac{2}{10}}$	LCM = 10	$\frac{3}{5} = \frac{6}{10}$ $\frac{2}{10} = \frac{2}{10}$
③ $\boxed{\frac{4}{9}, \frac{1}{2}}$	LCM = 18	$\frac{4}{9} = \frac{8}{18}$ $\frac{1}{2} = \frac{9}{18}$
④ $\boxed{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}}$	LCM = 12	$\frac{1}{2} = \frac{6}{12}$ $\frac{2}{3} = \frac{8}{12}$ $\frac{3}{4} = \frac{9}{12}$
⑤ $\boxed{\frac{2}{3}, \frac{1}{6}, \frac{3}{8}}$	LCM = 24	$\frac{2}{3} = \frac{16}{24}$ $\frac{1}{6} = \frac{4}{24}$ $\frac{3}{8} = \frac{9}{24}$

P.O. **5.06.07.01**

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Use a multiples chart to find the least common denominator for each pair of addends. Add. Express each sum in lowest terms.

① $\frac{2}{5} + \frac{3}{7} = \boxed{\frac{29}{35}}$

$\boxed{\frac{14}{35}} + \boxed{\frac{15}{35}} = \boxed{\frac{29}{35}}$

5	5	10	15	20	25	30	35
7	7	14	21	28	35		

LCM = 35

$\frac{2x7}{5x7} = \frac{14}{35}$ $\frac{3x5}{7x5} = \frac{15}{35}$

② $$\begin{array}{r} \frac{1}{6} \\ +\frac{1}{4} \\ \hline \frac{5}{12} \end{array}$$

③ $$\begin{array}{r} \frac{2}{7} \\ +\frac{1}{3} \\ \hline \frac{13}{21} \end{array}$$

④ $\frac{1}{5} + \frac{3}{4} = \boxed{\frac{19}{20}}$

⑤ $$\begin{array}{r} \frac{3}{5} \\ +\frac{2}{10} \\ \hline \frac{4}{5} \end{array}$$

⑥ $\frac{4}{9} + \frac{1}{6} = \boxed{\frac{11}{18}}$

CHALLENGE!

Find the sum.

2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24				
4	4	8	12	16	20	24						
6	6	12	18	24								

$\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{6} = \boxed{1\frac{1}{4}}$

$\frac{1}{2} = \frac{12}{24}$ $\frac{1}{4} = \frac{6}{24}$

$\frac{1}{3} = \frac{8}{24}$ $\frac{1}{6} = \frac{4}{24}$

$\frac{12}{24} + \frac{8}{24} + \frac{6}{24} + \frac{4}{24} = \frac{30}{24} = 1\frac{6}{24} = 1\frac{1}{4}$

P.O. 5.06.07.02

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

Find each difference. Express each difference in lowest terms.

① $$\begin{array}{r} \frac{5}{8} \\ -\frac{1}{4} \\ \hline \frac{3}{8} \end{array}$$

② $\frac{8}{9} - \frac{1}{2} = \boxed{\frac{7}{18}}$

③ $\frac{2}{3} - \frac{3}{9} = \boxed{\frac{1}{3}}$

④ $$\begin{array}{r} \frac{5}{6} \\ -\frac{1}{2} \\ \hline \frac{1}{3} \end{array}$$

⑤ $$\begin{array}{r} \frac{4}{5} \\ -\frac{2}{8} \\ \hline \frac{11}{20} \end{array}$$

⑥ $\frac{2}{3} - \frac{1}{8} = \boxed{\frac{13}{24}}$

⑦ $\frac{3}{4} - \frac{1}{6} = \boxed{\frac{7}{12}}$

⑧ $$\begin{array}{r} \frac{4}{5} \\ -\frac{3}{4} \\ \hline \frac{1}{20} \end{array}$$

Do you remember?

$$\begin{array}{r} 423 \\ \times 128 \\ \hline 54{,}144 \end{array} \qquad \begin{array}{r} \$3.15 \\ \times 236 \\ \hline \$\,743.40 \end{array} \qquad \begin{array}{r} 307 \\ \times 472 \\ \hline 144{,}904 \end{array}$$

P.O. 5.06.07.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Read the paragraph and answer the questions below.

Harley's Health Food Store distributed a recipe for Trail Mix. Look at the recipe and answer the questions below. Express each answer in lowest terms.

Trail Mix Recipe

granola: $\frac{9}{10}$ lb

sunflower seeds: $\frac{2}{5}$ lb

walnuts: $\frac{1}{3}$ lb

marshmallows: $\frac{1}{8}$ lb

raisins: $\frac{1}{2}$ lb

dried fruits: $\frac{3}{4}$ lb

① How much do the sunflower seeds and walnuts weigh together?

They weigh $\frac{11}{15}$ lb.

② How much more do the dried fruits weigh than the marshmallows?

The dried fruits weigh $\frac{5}{8}$ lb more.

③ How much more does the granola weigh than the sunflower seeds?

The granola weighs $\frac{1}{2}$ lb more.

④ How much do the raisins and marshmallows weigh in all?

They weigh $\frac{5}{8}$ lb.

⑤ Which ingredient weighs the same as the raisins and sunflower seeds combined?

granola

⑥ How much more do the raisins and walnuts together weigh than the dried fruits?

They weigh $\frac{1}{12}$ lb more.

P.O. 5.06.08.01-.02

NAME: ______________________________ **CLASS:** _______ **DATE:** ______________

Add or subtract. Express each answer in lowest terms. Make a list of multiples to help you find the LCM in each case.

① $2\frac{1}{4} = 2\frac{5}{20}$

$+9\frac{3}{5} = 9\frac{12}{20}$

4:	4	8	12	16	20
5:	5	10	15	20	

LCM of 4 and 5 = 20

② $5\frac{3}{5}$

$-1\frac{1}{3}$

$4\frac{4}{15}$

③ $8\frac{4}{5}$

$-4\frac{3}{10}$

$4\frac{1}{2}$

④ $2\frac{1}{2}$

$+8\frac{1}{6}$

$10\frac{2}{3}$

⑤ $11\frac{2}{8}$

$-\ 2\frac{3}{4}$

$8\frac{1}{2}$

⑥ $7\frac{4}{7}$

$+16\frac{2}{3}$

$24\frac{5}{21}$

⑦ $9\frac{11}{12}$

$+3\frac{1}{6}$

$13\frac{1}{12}$

⑧ $10\frac{3}{8}$

$-\ 4\frac{1}{5}$

$6\frac{7}{40}$

P.O. 5.06.08.03

NAME: ______________________ **CLASS:** _______ **DATE:** __________

Use the chart to solve the problems below.

Weekly Jogging Schedule
(in miles)

	Mon.	Tues.	Wed.	Thurs.	Fri.
Ann	$6\frac{3}{5}$	$2\frac{1}{8}$	$4\frac{7}{10}$	$8\frac{3}{4}$	0
Barbara	$1\frac{3}{10}$	$3\frac{3}{4}$	$2\frac{1}{6}$	0	$3\frac{1}{3}$
Debbie	$4\frac{2}{3}$	$1\frac{1}{6}$	0	$3\frac{3}{7}$	$2\frac{1}{2}$
Susan	$4\frac{5}{7}$	0	$2\frac{3}{5}$	$1\frac{1}{4}$	$2\frac{2}{3}$
Adele	0	$6\frac{1}{2}$	$1\frac{4}{5}$	$7\frac{1}{8}$	$3\frac{3}{4}$
Pearl	$2\frac{3}{10}$	$1\frac{1}{5}$	0	$4\frac{7}{8}$	$8\frac{1}{3}$

① How far did Susan run in all on Thursday and Friday?

Susan ran $3\frac{11}{12}$ miles.

② How much farther did Pearl run on Friday than on Monday?

Pearl ran $6\frac{1}{30}$ miles farther on Friday.

③ On Monday, how much farther did Ann run than Barbara?

Ann ran $5\frac{3}{10}$ miles farther.

④ How much farther did Debbie run on Monday than on Tuesday?

Debbie ran $3\frac{1}{2}$ miles farther on Monday.

⑤ Find the total distance Adele ran on Thursday and Friday.

Adele ran $10\frac{7}{8}$ miles on Thursday and Friday.

⑥ Create and solve your own problem based on the chart above.

Answers will vary.

SHARPENING YOUR SKILLS

Units 46, 47, 48

Name: ____________________ **Class:** ____________ **Date:** ________

1. Find the LCM of 6 and 7 by preparing a multiples chart.

6	6	12	18	24	30	36	㊷	48
7	7	14	21	28	35	㊷		

The LCM of 6 and 7 is 42.

2. Find the LCM of 3, 4, and 8.

3	3	6	9	12	15	18	21	㉔
4	4	8	12	16	20	㉔		
8	8	16	㉔					

The LCM of 3, 4, and 8 is 24.

For questions 3 and 4, mark your answers in the answer grid below.

3. $\frac{1}{4} - \frac{3}{16} = \boxed{}$

ⓐ $\frac{1}{16}$ ⓒ $\frac{2}{12}$

ⓑ $\frac{2}{16}$ ⓓ $\frac{4}{20}$

4. $9\frac{2}{3} - 4\frac{3}{5} = \boxed{}$

ⓔ $5\frac{1}{2}$ ⓖ $5\frac{1}{15}$

ⓕ $13\frac{5}{8}$ ⓗ $4\frac{3}{5}$

Answer Grid

3. ● ⓑ ⓒ ⓓ 4. ⓔ ⓕ ● ⓗ

5. Rename the fractions and add.

$$\frac{1}{3} = \frac{1\times5}{3\times5} = \frac{5}{15}$$
$$+\frac{3}{5} = \frac{3\times3}{5\times3} = \frac{9}{15}$$
$$\boxed{\frac{14}{15}}$$

6. $\frac{3}{8} + \frac{2}{5} = \boxed{\frac{31}{40}}$

7. Express the sum in lowest terms.

$\frac{2}{3} + \frac{3}{6} + \frac{2}{4} = \boxed{1\frac{2}{3}}$

8. Mrs. Scott mixed $2\frac{1}{3}$ cups of tap water with $1\frac{7}{8}$ cups of natural spring water. How much water did she have then?

$4\frac{5}{24}$ cups

9. If there is $\frac{7}{8}$ pound of salami and Ben eats $\frac{1}{2}$ pound, how much salami is left?

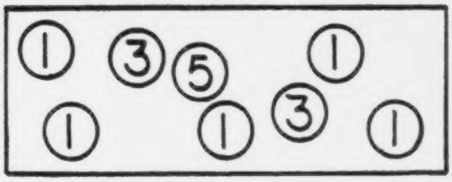
$\frac{3}{8}$ lb

P.O. 5.12.06.01

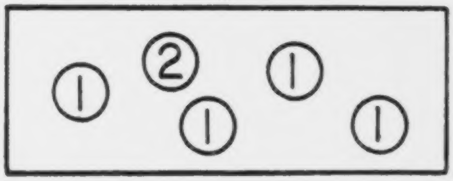
NAME: ______________________ **CLASS:** _______ **DATE:** ______________

A. Look at the two groups of numbered disks.

Group A



Group B



For Group A

P(1) = $\frac{5}{8}$

P(3) = $\frac{2}{8}$

P(5) = $\frac{1}{8}$

For Group B

P(1) = $\frac{4}{5}$

P(2) = $\frac{1}{5}$

1. In which group, A or B, are we more likely to pick a 1? B
2. In which group are we more likely to pick a 2? B
3. What is the probability of picking a 3 from Group B? 0
4. If we combine the disks in Group A and Group B, what is the probability of each of the following:

P(1) = $\frac{9}{13}$ P(3) = $\frac{2}{13}$

P(2) = $\frac{1}{13}$ P(5) = $\frac{1}{13}$

B. If you were to place 4 red chips and 1 blue chip in a paper bag and pick a chip without looking, which color chip would you be more likely to choose? Red

If you were to conduct the experiment 50 times, which color chip would probably be picked most often? Red

Out of the 50 trials, about how many times do you think this color would be picked?

about 40

Now conduct the experiment. Pick a chip, tally the color picked, replace the chip, and pick again until 50 trials have been made.

red	Answers will vary.
blue	

How do the results of your experiment compare to your predictions?

Answers will vary.

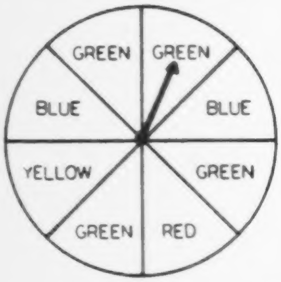
P.O. 5.12.06.02-.03

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

A. **Prove that the sum of the probabilities equals 1 for each experiment below.**

Experiment 1:	**Experiment 2:**
Tossing a Coin	**Rolling a Die**
P(heads)+P(tails) = $\boxed{1}$	P(1)+P(2)+P(3)+P(4)+P(5)+P(6) = $\boxed{1}$
$\frac{1}{2}$ + $\frac{1}{2}$ = $\boxed{1}$	$\frac{1}{6}$ + $\frac{1}{6}$ + $\frac{1}{6}$ + $\frac{1}{6}$ + $\frac{1}{6}$ + $\frac{1}{6}$ = $\boxed{\frac{6}{6}}$ = 1

B.



Predict the likelihood of the spinner landing on each color.

P(red) = $\frac{1}{8}$ P(blue) = $\frac{2}{8}$

P(yellow) = $\frac{1}{8}$ P(green) = $\frac{4}{8}$

The chance that the spinner will land on any one of these four colors can be expressed as P(red) + P(yellow) + P(blue) + P(green) = 1

What is the probability that the spinner will not land on yellow?

P(not yellow) = $\frac{7}{8}$

What is the probability that the spinner will not land on red?

P(not red) = $\frac{7}{8}$

C. In a deck of 52 cards, there are 4 aces. What is the probability of picking an ace from the deck without looking? P(ace) = $\frac{4}{52} = \frac{1}{13}$. What is the likelihood of drawing anything else but an ace? P(not ace) = $\frac{48}{52} = \frac{12}{13}$.

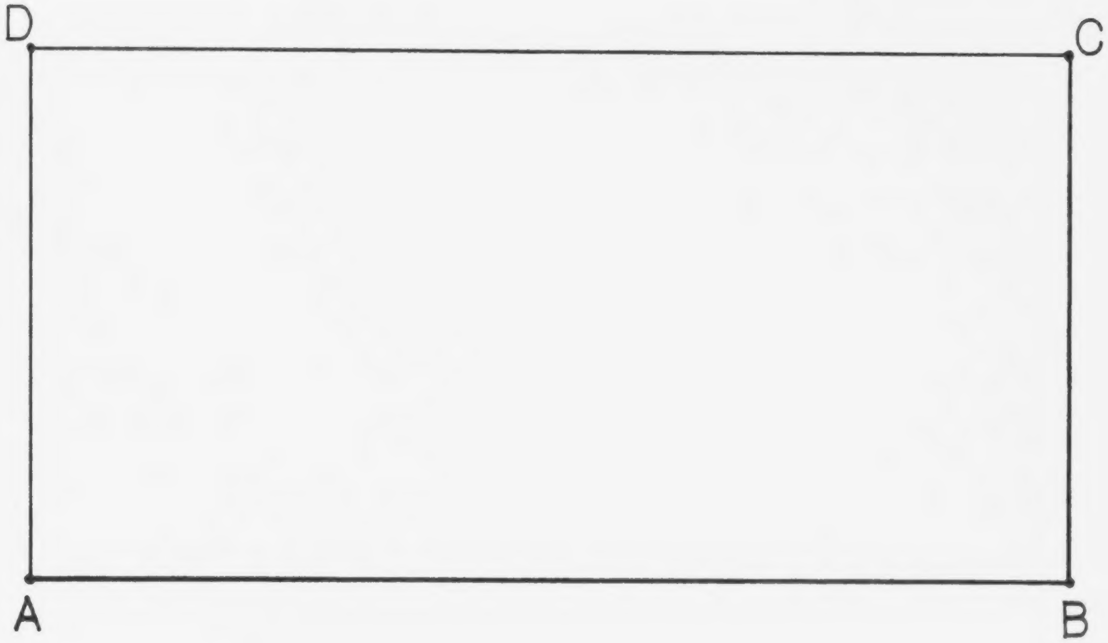
In the same deck of 52 cards, 13 cards are diamonds. Predict the likelihood of drawing a diamond from the deck without looking. P(diamond) = $\frac{13}{52} = \frac{1}{4}$. What is the likelihood of drawing a card that is not a diamond? P(not diamond) = $\frac{39}{52} = \frac{3}{4}$.

P.O. 5.09.05.01

NAME: ____________________ **CLASS:** ________ **DATE:** ____________

Complete the construction of a quadrilateral so that:

- AB = 6 in.
- ∢ B contains 90°
- BC = 3 in.
- ∢ C contains 90°
- CD = 6 in.



What is another name for this quadrilateral? rectangle

How do the opposite sides compare? They are equal and parallel.

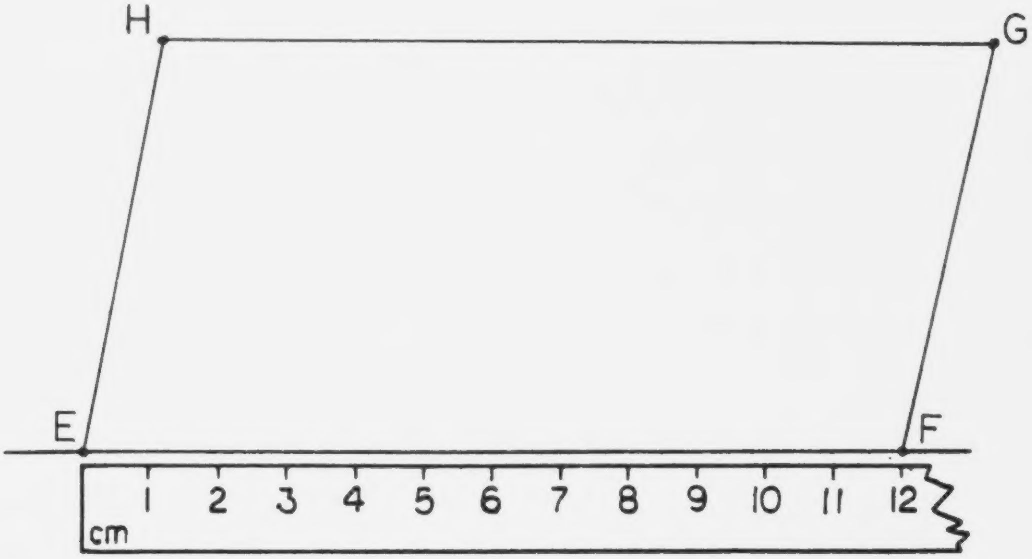
How many right angles were formed? 4

P.O. 5.09.05.02

NAME: ____________________ **CLASS:** ______ **DATE:** ____________

Complete the construction of a quadrilateral so that:

- **EF = 12 cm**
- **∢ F contains 100°**
- **FG = 6 cm**
- **∢ G contains 80°**
- **GH = 12 cm**
- **EH = 6 cm**



How do the opposite sides compare? They are equal and parallel.

How many angles were formed? 4

CHALLENGE!

Construct a quadrilateral and a triangle. Measure, compute, and compare the sums of the interior (inside) angles of these two figures. What do you observe?

Quadrilateral = 360° Triangle = 180°

P.O. 5.10.05.01

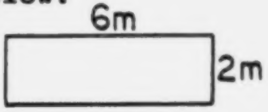
NAME: ______________________ **CLASS:** _______ **DATE:** ______________

Follow the directions below.

A. Match the words to their symbols.

1. square feet	m^2
2. square meters	sq ft
3. square centimeters	sq cm
4. square inches	sq mm
5. square millimeters	$in.^2$

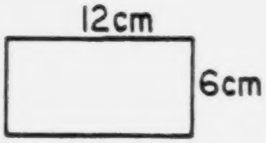
B. Use the formula, A = l x w, to find the area of each rectangle below.

①


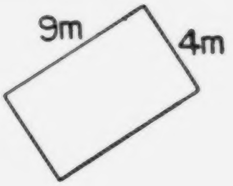
A = l x w

A = 6m x 2m

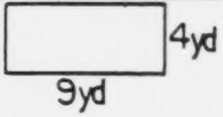
A = 12 sq m (or m^2)

②


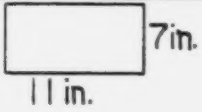
A = 72 cm^2 (or sq cm)

③


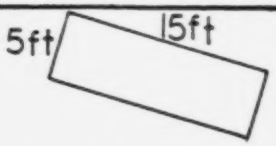
A = 36 m^2 or sq m)

④


A = 36 sq yd

⑤


A = 77 sq in.

⑥


A = 75 sq ft

C. What is the area of each of the following rectangles?

1. 35 ft by 10 ft

A = l x w

A = 35 x 10

A = 350 sq ft

2. 24 cm by 7 cm

A = L x W

A = 24 x 7

A = 168 cm^2 (or sq cm)

3. 24 in. by 36 in.

A = L x W

A = 24 x 36

A = 864 sq in.

4. 16 cm by 3 cm

A = L x W

A = 16 x 3

A = 48 cm^2 (or sq cm)

D. Solve.

What is the area of a table top that is 41 inches long and 25 inches wide? A = L x W

A = 41 x 25

A = 1025 sq in.

P.O. 5.10.05.02

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

Solve the following word problems.

1. How many square meters of concrete flooring will be necessary for a garage 4 meters long by 6 meters wide?

24 sq m (or m^2)

2. A student's desk is 2 ft wide and 4 ft long. If we want to cover it with contact paper, how much paper do we need?

8 sq ft

3. If the area of a rectangle is 40 sq ft, which of the following choices would not be the possible dimensions?

ⓐ 8 x 5 ● 2 x 40
ⓑ 4 x 10 ⓓ 40 x 1

4. A garden is 6 ft long and 2 ft wide. How many square feet does the garden contain?

12 sq ft

5. How much carpeting is needed for a room 9 ft by 8 ft?

72 sq ft

6. A football field is 100 yd long and 50 yd wide. What is the playing area of the field?

5000 sq yd

7. Mr. Landau is putting wallpaper on one wall of his kitchen. The wall measures 5 m by 7 m. How much wallpaper does he need?

35 sq m (or m^2)

8. The notepads that came in boxes of 12 are 8 cm wide by 16 cm long. What is the area of each notepad?

128 sq cm (or cm^2)

Do you remember?

The gym is 50 feet long and 40 feet wide. Find the perimeter of the gym.

180 ft

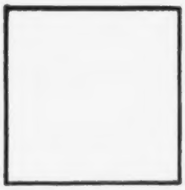
SHARPENING YOUR SKILLS

Units 49, 50, 51

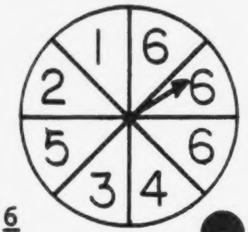
Name: ____________________ **Class:** ____________ **Date:** ________

1. Use a ruler and a protractor to construct a square with 1 inch sides.

start here ↗



2. What is the probability that the spinner will land on number 6?



ⓐ $\frac{6}{8}$ ● $\frac{3}{8}$

ⓑ $\frac{3}{4}$ ⓓ $\frac{5}{8}$

3. What is the sum of all the probabilities in any given experiment?

● 1 ⓖ $\frac{1}{2}$

ⓕ $\frac{1}{8}$ ⓗ 2

4. Katherine calculated that the probability of her winning a race was $\frac{6}{10}$. If that is true, what was the probability of her losing? $\frac{4}{10}$

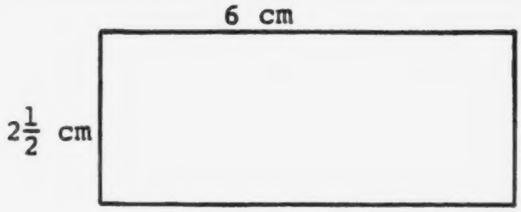
5. My living room measures 7 m long and 4 m wide. To cover the floor with a rug, I need to know the area of the room. Write the formula and use it to find the area.

A = L × W

A = 7 × 4

A = 28 sq m

6.

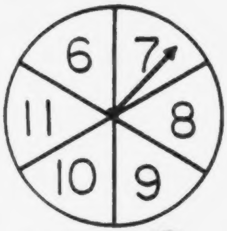


What is the area of the rectangle above?

ⓐ $8\frac{1}{2}$ sq cm ⓒ 17 sq cm

ⓑ $12\frac{1}{2}$ sq cm ● Not Here

7. Which answer best expresses the probability of not getting the number 8 on a spin?



ⓔ 6 - 1 = 5 ● $1 - \frac{1}{6} = \frac{5}{6}$

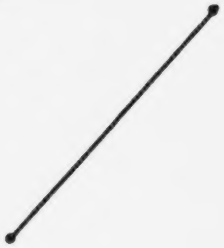
ⓕ $1 - \frac{5}{6} = \frac{1}{6}$ ⓗ Not Here

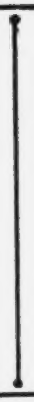
P.O. 5.09.06.01

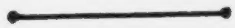
NAME: ______________________________ CLASS: _______ DATE: _______________

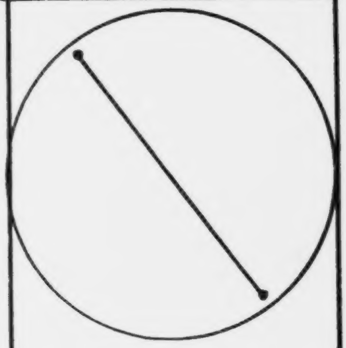
In each row, circle the figure which is congruent to the first figure.

①









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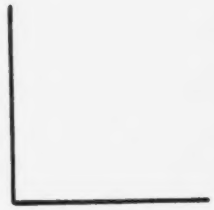
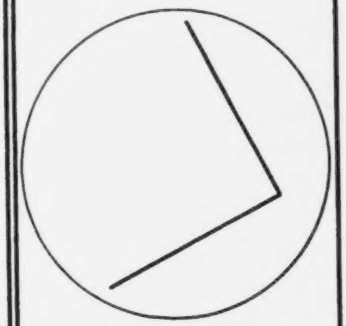
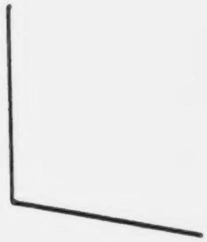
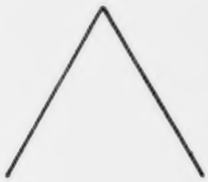
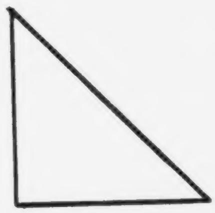


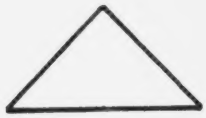


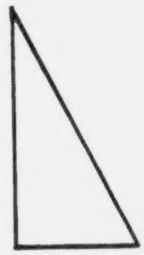


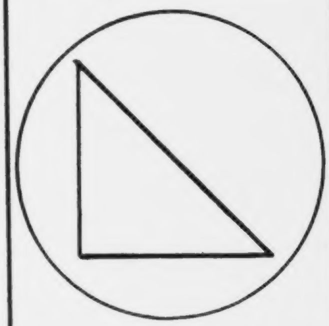


③

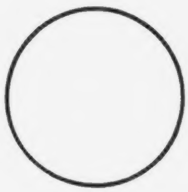


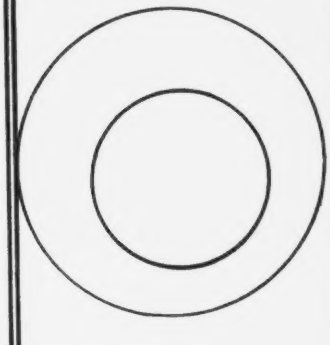


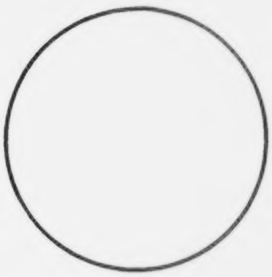


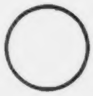


④





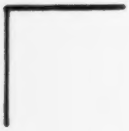
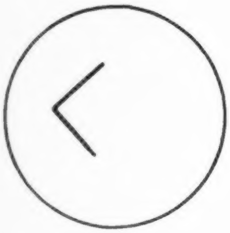
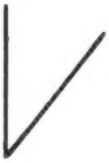
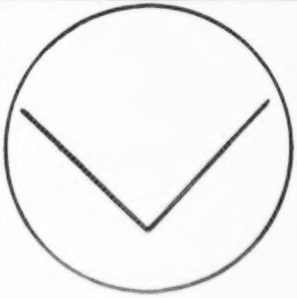
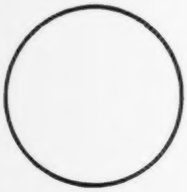
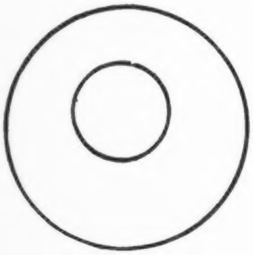
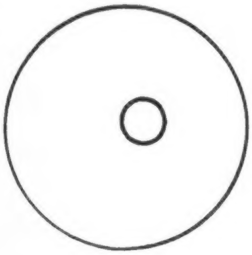
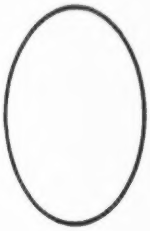
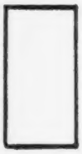
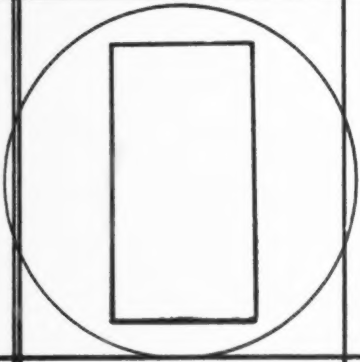
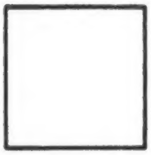
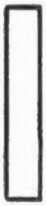
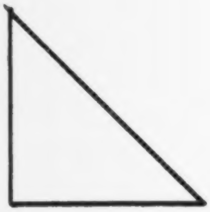
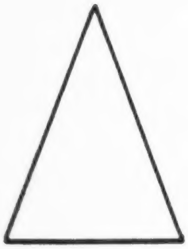
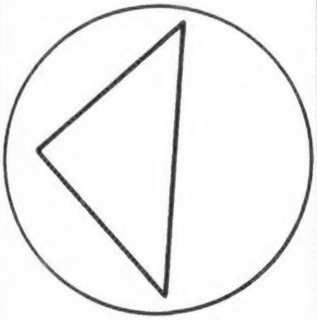
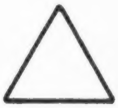




P.O. 5.09.06.02

NAME: ______________________________ **CLASS:** _______ **DATE:** ________________

In each row, circle all the figures that are similar to the first figure in that row.

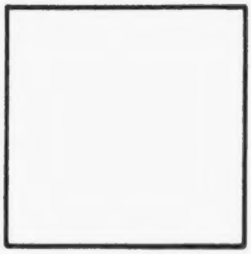
① 			
② 			
③ 			
④ 			

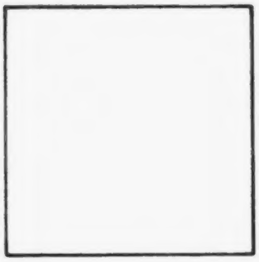
P.O. 5.09.06.03

NAME: ______________________ **CLASS:** ______ **DATE:** ______________

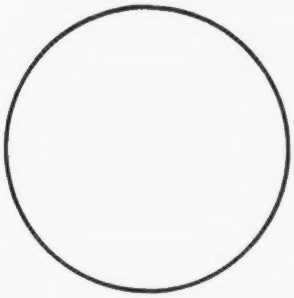
In the box next to each figure, construct another figure congruent to it.

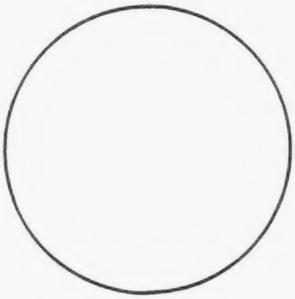
①



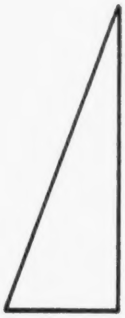


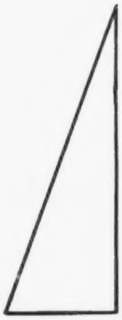
②





③



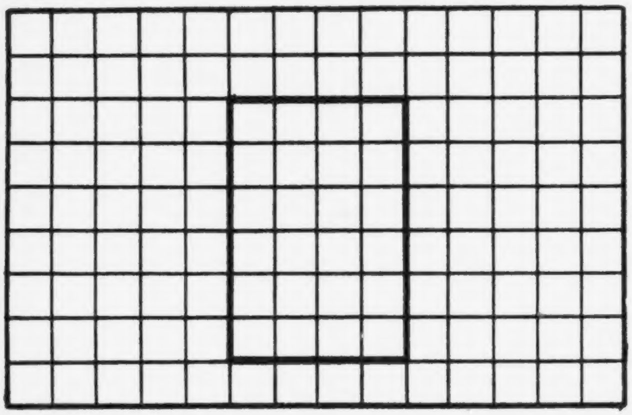


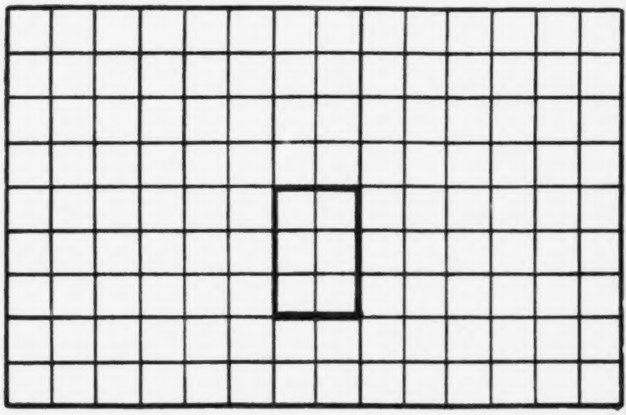
P.O. 5.09.06.04

NAME: ______________________ **CLASS:** ________ **DATE:** ________________

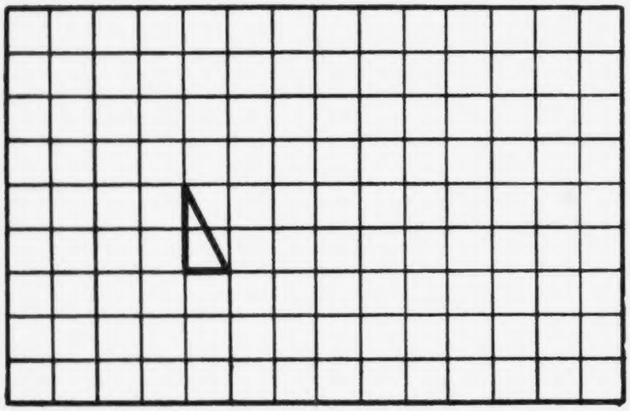
Construct a figure similar to the one given. In each case, one side of the new figure is already given.

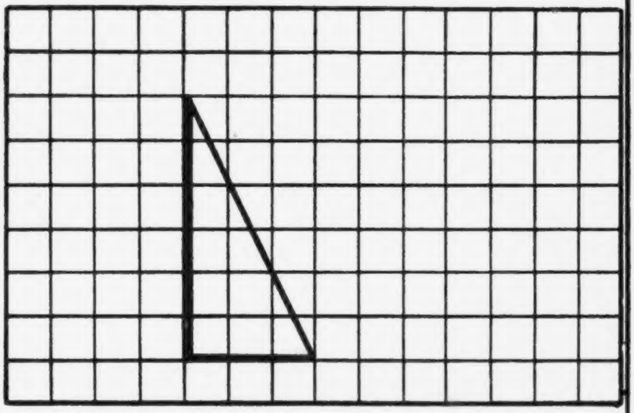
①



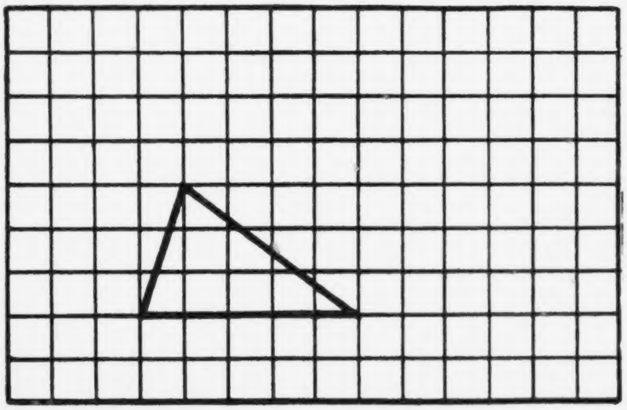


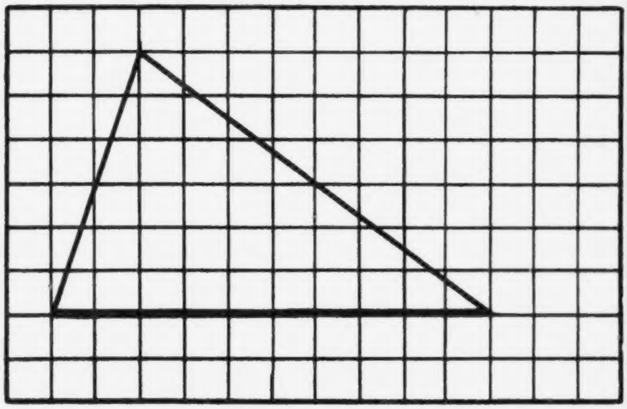
②





③



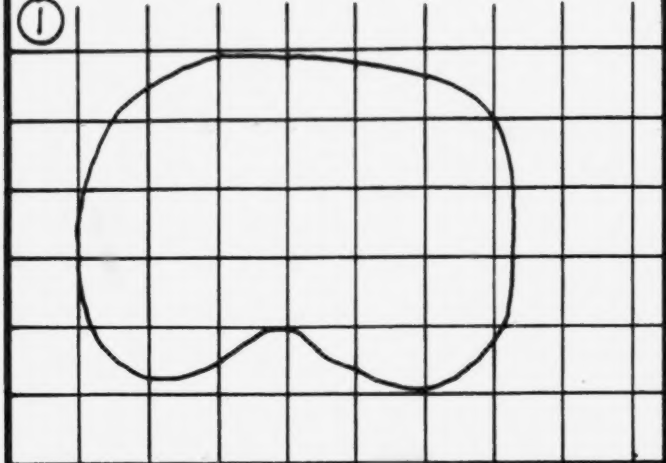


P.O. **5.10.06.01**

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

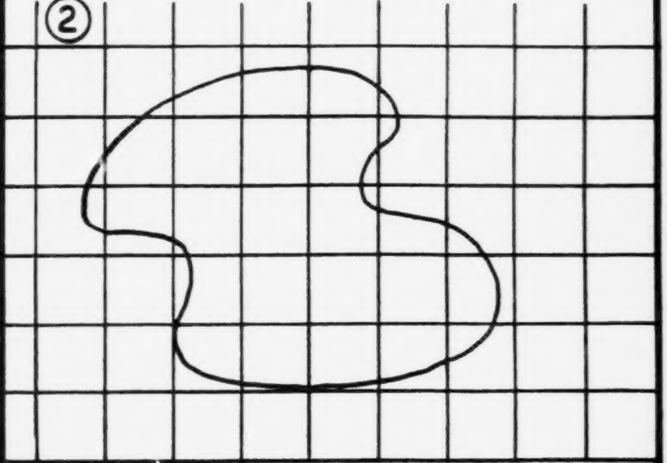
Estimate the area of each shape below. Each square equals one square centimeter.

①



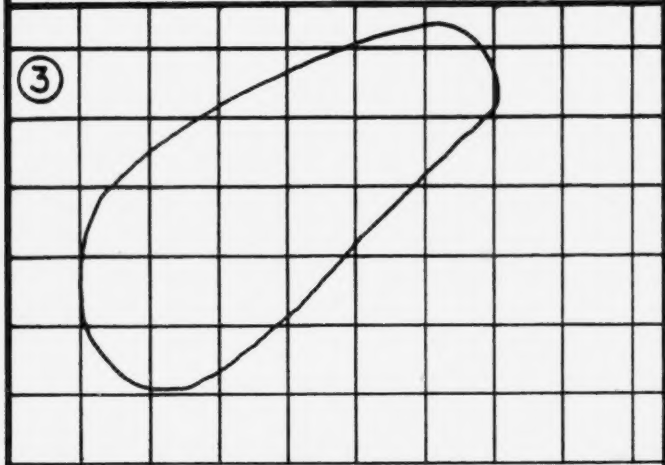
Estimated Area: 25

②



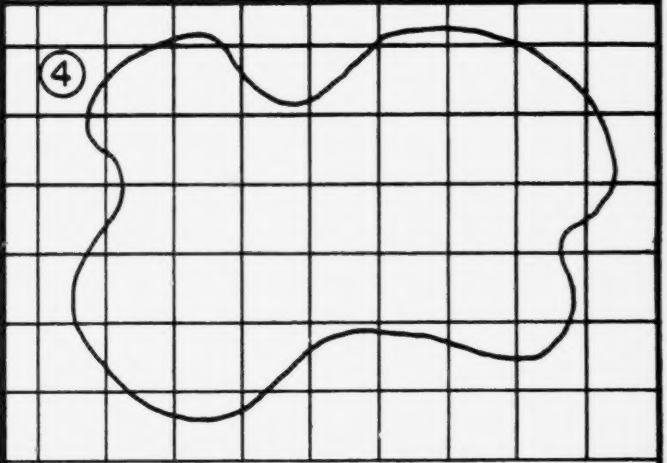
Estimated Area: 20

③



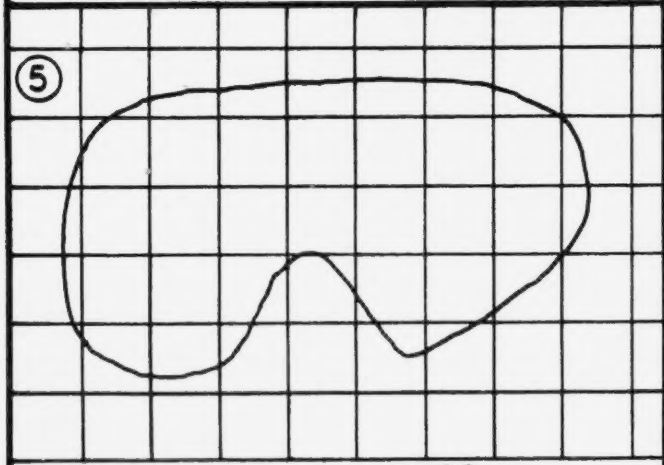
Estimated Area: 16

④



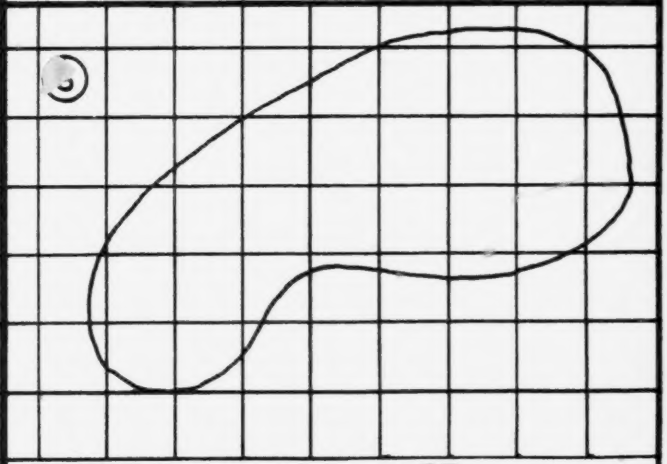
Estimated Area: 30

⑤



Estimated Area: 22

⑥



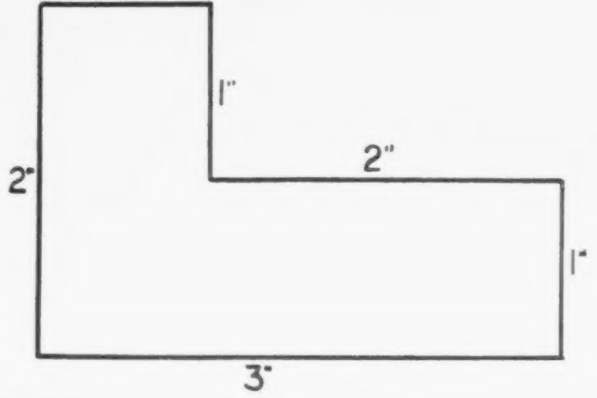
Estimated Area: 23

P.O. **5.10.06.02**

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

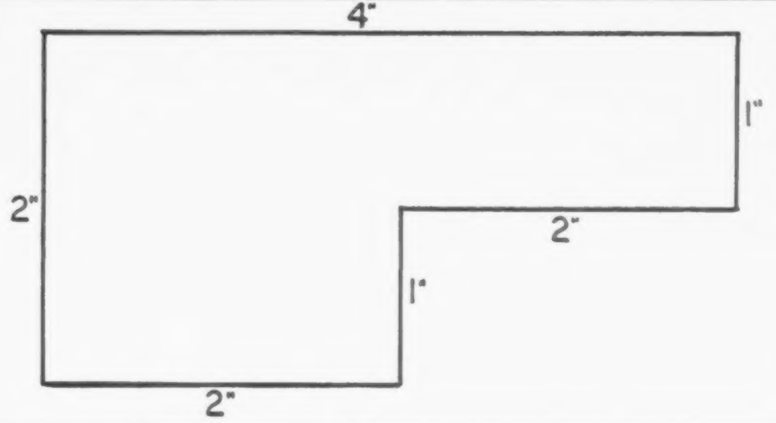
Find the area of each figure below.

①



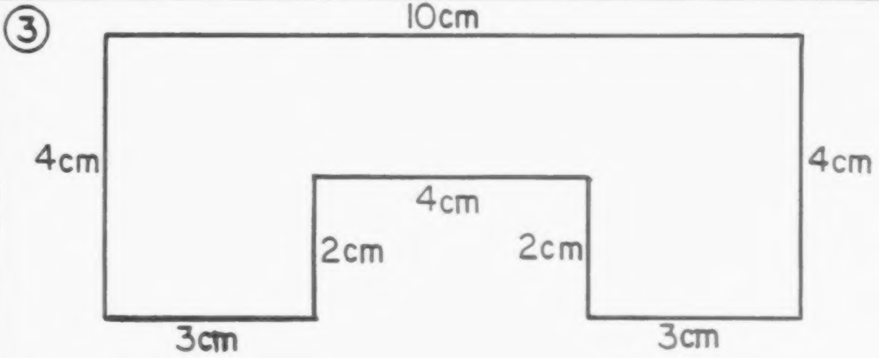
Area= 4 sq in.

②



Area= 6 sq in.

③


10cm
4cm
4cm
4cm
2cm
2cm
3cm
3cm

Area= 32 cm²

Do you remember? Write each of the following as a numeral.

① four million, two hundred seventeen thousand, eleven = 4, 217, 011

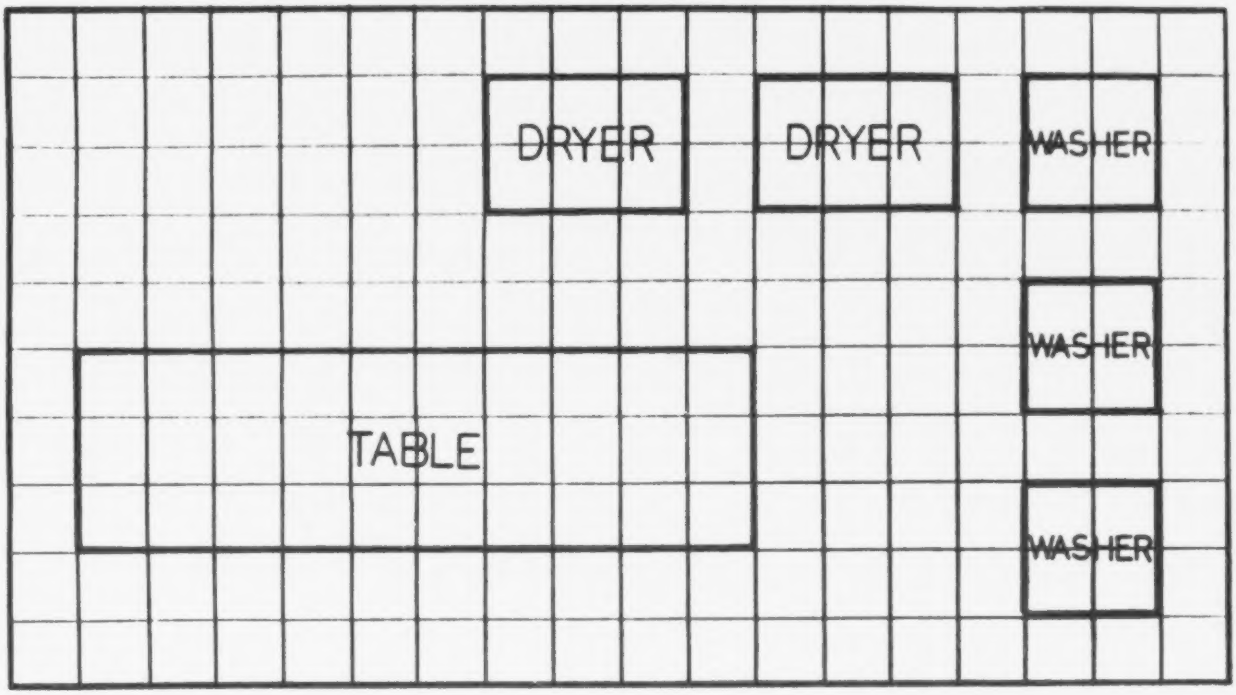
② nine million, six hundred thousand, nine hundred twenty-two = 9, 600, 922

P.O. 5.10.07.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Use the scale drawing to fill in the missing information.

Laundry Room


DRYER
DRYER
WASHER
WASHER
TABLE
WASHER

Scale: 2 cm represents 1 m

Complete the chart:

Scale	Actual
2 cm	1 m
4 cm	2 m
6 cm	3 m
8 cm	4 m
10 cm	5 m
12 cm	6 m
14 cm	7 m
16 cm	8 m
18 cm	9 m

Find the actual dimensions:

Washer:
1 m wide and 1 m long

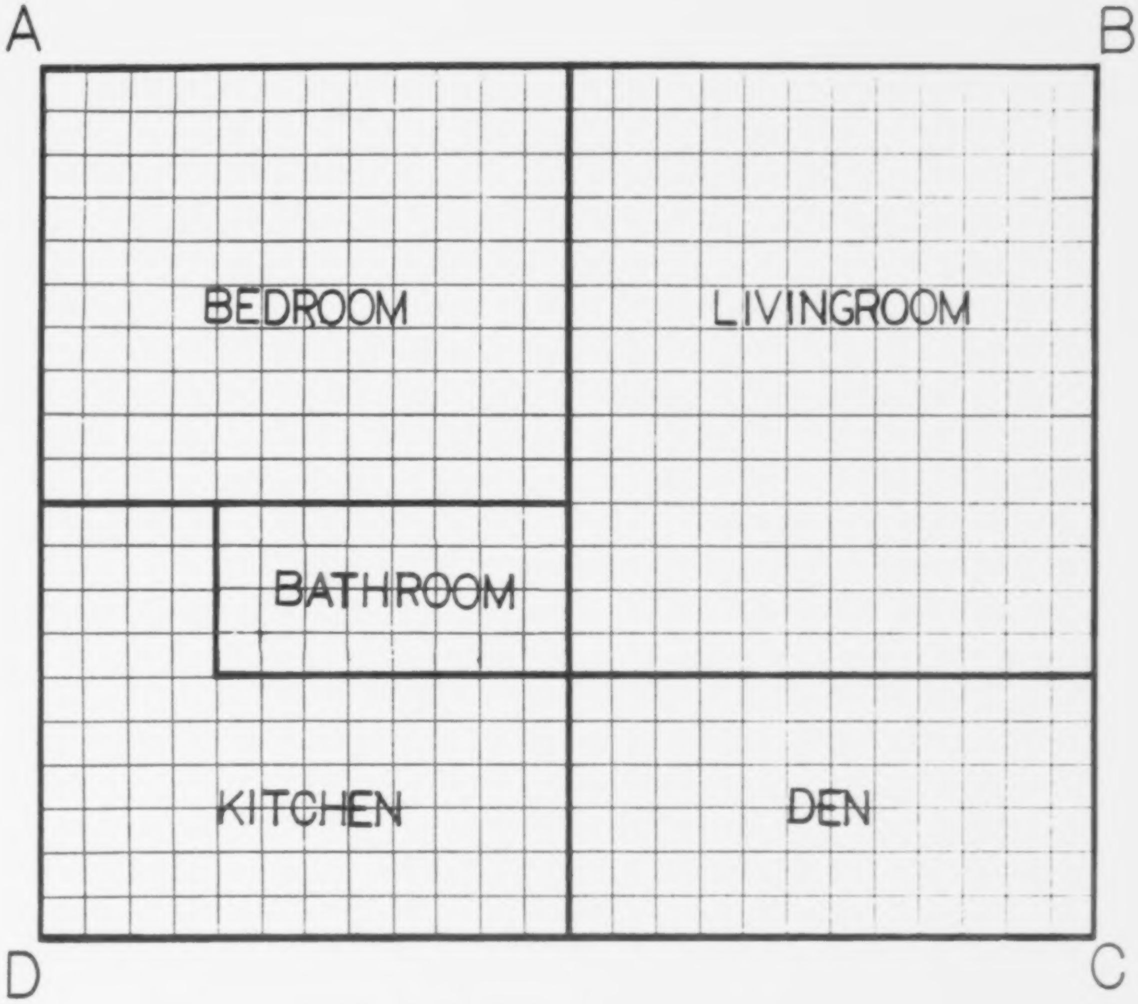
Table:
$1\frac{1}{2}$ m wide and 5 m long

Dryer:
1 m wide and $1\frac{1}{2}$ m long

P.O. 5.10.07.03

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

Use the scale drawing to answer the questions below.



Scale: $\frac{1}{2}$ inch represents 3 feet

① Find the length and the width of the bedroom. L = 18 ft W = 15 ft

② Find the area of the living room. A = 378 sq ft

③ What is the difference in length between side AB and side BC?
The difference is 6 feet.

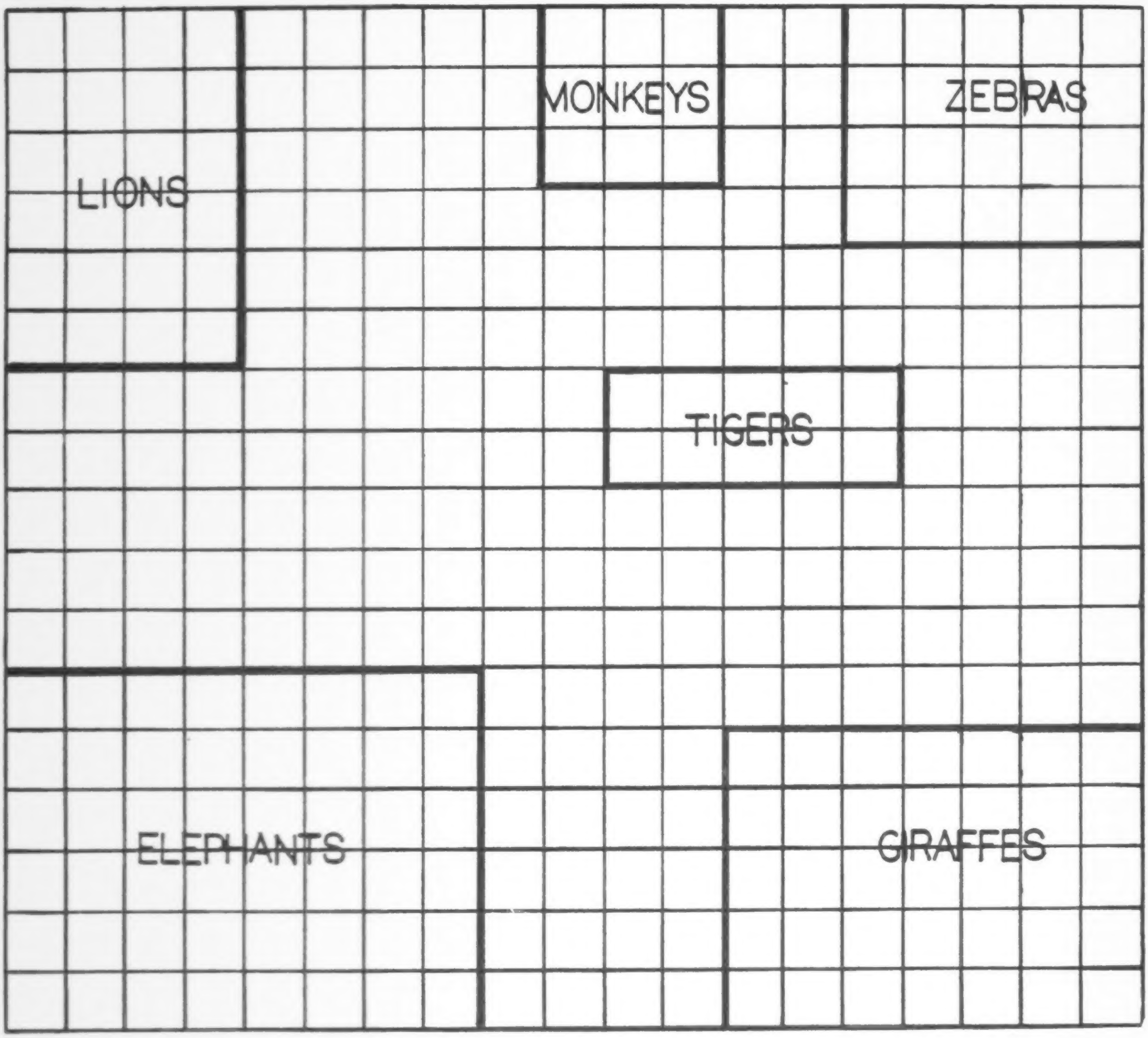
④ What is the total area of the den and the bathroom?
The total area is 234 square feet.

⑤ Find the area of the kitchen. A = 198 sq ft

P.O. 5.10.07.04

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

Follow the directions below the grid.


MONKEYS
ZEBRAS
LIONS
TIGERS
ELEPHANTS
GIRAFFES

Scale: 1 cm represents 5 m

Answers may vary.

Using the actual dimensions below, construct a scale drawing of the animal cages in the park zoo. The lion's cage is done for you.

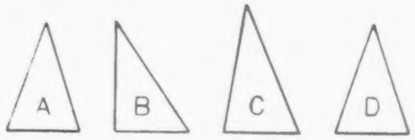
lion cage: 30 m by 20 m
monkey cage: 15 m by 15 m
elephant cage: 40 m by 30 m
giraffe cage: 25 m by 35 m
zebra cage: 25 m by 20 m
tiger cage: 25 m by 10 m

SHARPENING YOUR SKILLS

Units 52, 53, 54

Name: ____________________ **Class:** ____________ **Date:** _________

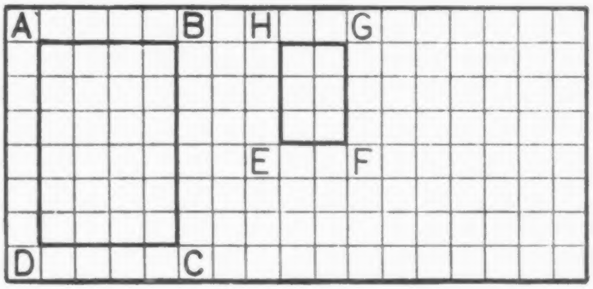
1. Which two triangles below are congruent?



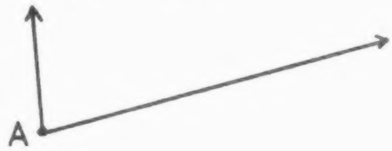
ⓐ A and B ● A and D

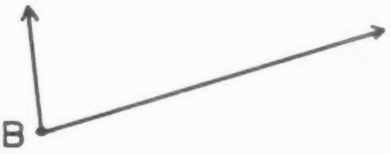
ⓑ B and C ⓓ B and D

2. Draw a rectangle similar to the rectangle ABCD below.

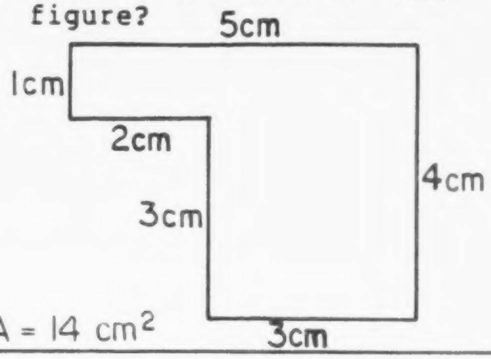


3. Use a ruler and a protractor to draw angle B congruent to angle A below.





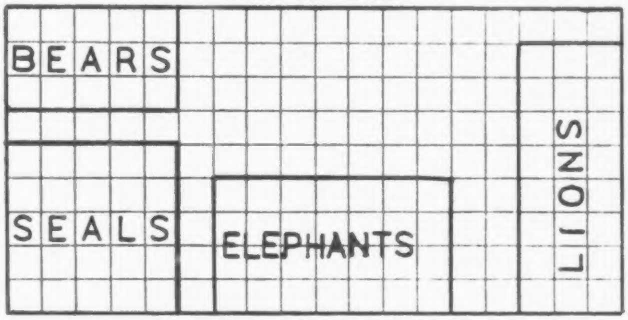
4. What is the area of this figure?


5cm
1cm
2cm
4cm
3cm
3cm

A = 14 cm^2

5. Use the scale drawing to find the actual dimensions of the items below.

ZENITH ZOO


BEARS
SEALS
ELEPHANTS
LIONS

Scale: The length of 1 square represents 10 meters

Bear cage:
50 m long, 30 m wide

Lion cage:
80 m long, 30 m wide

Seal cage:
50 m long, 50 m wide

Elephant cage:
70 m long, 40 m wide

Zenith Zoo:
180 m long, 90 m wide

P.O. 5.07.05.01-.02

NAME: ______________________ **CLASS:** ______ **DATE:** __________

A. Find each quotient and check.

① $\begin{array}{r}4.30\\2\overline{)8.60}\end{array}$ **check** $\begin{array}{r}4.30\\\underline{\times\quad 2}\\8.60\end{array}$	② $\begin{array}{r}3.7\\5\overline{)18.5}\end{array}$ **check** $\begin{array}{r}3.7\\\underline{\times\quad 5}\\18.5\end{array}$	③ $\begin{array}{r}0.432\\2\overline{)0.864}\end{array}$ **check** $\begin{array}{r}0.432\\\underline{\times\quad 2}\\0.864\end{array}$
④ $\begin{array}{r}1.31\\7\overline{)9.17}\end{array}$ **check** $\begin{array}{r}1.31\\\underline{\times\quad 7}\\9.17\end{array}$	⑤ $\begin{array}{r}4.24\\4\overline{)16.96}\end{array}$ **check** $\begin{array}{r}4.24\\\underline{\times\quad 4}\\16.96\end{array}$	⑥ $\begin{array}{r}7.47\\3\overline{)22.41}\end{array}$ **check** $\begin{array}{r}7.47\\\underline{\times\quad 3}\\22.41\end{array}$
⑦ $\begin{array}{r}3.01\\6\overline{)18.06}\end{array}$ **check** $\begin{array}{r}3.01\\\underline{\times\quad 6}\\18.06\end{array}$	⑧ $\begin{array}{r}0.72\\5\overline{)3.60}\end{array}$ **check** $\begin{array}{r}0.72\\\underline{\times\quad 5}\\3.60\end{array}$	⑨ $\begin{array}{r}3.24\\9\overline{)29.16}\end{array}$ **check** $\begin{array}{r}3.24\\\underline{\times\quad 9}\\29.16\end{array}$
⑩ $\begin{array}{r}1.666\\4\overline{)6.664}\end{array}$ **check** $\begin{array}{r}1.666\\\underline{\times\quad 4}\\6.664\end{array}$	⑪ $\begin{array}{r}0.83\\3\overline{)2.49}\end{array}$ **check** $\begin{array}{r}0.83\\\underline{\times\quad 3}\\2.49\end{array}$	⑫ $\begin{array}{r}0.004\\2\overline{)0.008}\end{array}$ **check** $\begin{array}{r}0.004\\\underline{\times\quad 2}\\0.008\end{array}$

B. Complete each division sentence.

① 4.1 ÷ 10 = 0.41

② 2.4 ÷ 100 = 0.024

③ 13.9 ÷ 10 = 1.39

④ 0.3 ÷ 100 = 0.003

⑤ 12.8 ÷ 100 = 0.128

⑥ 235.7 ÷ 100 = 2.357

⑦ 24.6 ÷ 10 = 2.46

⑧ 37.2 ÷ 10 = 3.72

⑨ 48.6 ÷ 100 = 0.486

⑩ 135.84 ÷ 10 = 13.584

⑪ 4.06 ÷ 10 = 0.406

⑫ 11.85 ÷ 10 = 1.185

P.O. **5.07.05.03-.04**

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Express each quotient as an equivalent division by a whole number.

① $\frac{10.0}{0.5} = \frac{10.0}{0.5} \times 1 = \frac{10.0}{0.5} \times \frac{10}{10} = \frac{100.0}{5.0} = \frac{100}{5}$

Therefore: $\frac{10.0}{0.5} = \frac{100}{5}$

② $\frac{3.2}{0.8} =$

Therefore: $\frac{3.2}{0.8} = \boxed{\frac{32}{8}}$

③ $\frac{0.24}{0.04} =$

Therefore: $\frac{0.24}{0.04} = \boxed{\frac{24}{4}}$

④ $\frac{1.8}{0.3} =$

Therefore: $\frac{1.8}{0.3} = \boxed{\frac{18}{3}}$

B. Rewrite each division example as an equivalent example involving whole numbers in the divisor.

① $0.2\overline{)4.82} \longrightarrow \begin{array}{r} 24.1 \\ 0\underset{\frown}{.2}\overline{)4\underset{\frown}{.8}2} \end{array}$

② $0.3\overline{)6.99} \longrightarrow \begin{array}{r} 23.3 \\ 3\overline{)69.9} \end{array}$

③ $0.5\overline{)18.50} \longrightarrow \begin{array}{r} 37.0 \\ 5\overline{)185.0} \end{array}$

④ $0.4\overline{)16.68} \longrightarrow \begin{array}{r} 41.7 \\ 4\overline{)166.8} \end{array}$

⑤ $0.6\overline{)6.66} \longrightarrow \begin{array}{r} 11.1 \\ 6\overline{)66.6} \end{array}$

⑥ $0.8\overline{)25.60} \longrightarrow \begin{array}{r} 32.0 \\ 8\overline{)256.0} \end{array}$

P.O. 5.07.05.05

NAME: ______________________________ CLASS: ________ DATE: ____________

Mixed Problem Solving

1. Laura baked 4.8 pounds of cookies. If she puts the same amount of cookies in each of 2 boxes, how many pounds of cookies will be in each box?

2.4 lb

2. Lucy can run 0.2 km in 1 minute. At that rate, how far can she run in 2.5 minutes?

0.5 km

3. Joseph bought five cans of juice. Each can contained 1.5 liters of juice. How many liters of juice did Joseph buy in all?

7.5 L

4. If 7 boxes of candy weigh 2.17 kg, what is the weight of one box of candy?

0.31 kg

5. Ms. Brown has a piece of ribbon that is 3.50 meters long. How many lengths of ribbon that are 0.5 meter long can she cut from that ribbon?

7

Do you remember?

Express the probability of each event below as a fraction.

Experiment: rolling one die

a) What is the probability of rolling a 6? $\frac{1}{6}$

b) What is the probability of rolling an even number? $\frac{3}{6}$ or $\frac{1}{2}$

c) What is the probability of rolling a 9? 0

d) What is the probability of rolling a prime number? $\frac{3}{6}$ or $\frac{1}{2}$

P.O. 5.06.09.01-.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

A. Find each product.

① $3 \times 1\frac{1}{2} = \boxed{4\frac{1}{2}}$

② $4 \times 2\frac{2}{3} = \boxed{10\frac{2}{3}}$

③ $3\frac{1}{2} \times 5 = \boxed{17\frac{1}{2}}$

④ $1\frac{1}{3} \times 3 = \boxed{4}$

⑤ $6 \times 1\frac{1}{3} = \boxed{8}$

⑥ $8 \times 2\frac{1}{3} = \boxed{18\frac{2}{3}}$

⑦ $2\frac{4}{5} \times 2 = \boxed{5\frac{3}{5}}$

⑧ $2\frac{2}{3} \times 6 = \boxed{16}$

⑨ $3 \times 2\frac{1}{5} = \boxed{6\frac{3}{5}}$

⑩ $1\frac{9}{10} \times 10 = \boxed{19}$

⑪ $3\frac{1}{4} \times 2 = \boxed{6\frac{1}{2}}$

⑫ $1\frac{3}{8} \times 4 = \boxed{5\frac{1}{2}}$

B. Solve the problems below.

Solve

⑬ Find the area of a room that is 4 meters long and $3\frac{1}{3}$ meters wide.

A = $13\frac{1}{3}$ sq m

⑭ A recipe calls for $2\frac{1}{4}$ cups of rice and 4 cups of water. How much rice is needed to double the recipe?

$4\frac{1}{2}$ cups of rice

⑮ Janice runs $2\frac{1}{2}$ miles every day. How many miles does she run in one week?

$17\frac{1}{2}$ miles

P.O. 5.06.09.02-.03

NAME: ________________ **CLASS:** ______ **DATE:** ________

A. Find each product

① $1 \times 2\frac{1}{2} = \boxed{2\frac{1}{2}}$

② $2 \times 1\frac{1}{3} = \boxed{2\frac{2}{3}}$

③ $2\frac{2}{3} \times 1\frac{1}{2} = \boxed{4}$

④ $5\frac{1}{2} \times 2\frac{1}{2} = \boxed{13\frac{3}{4}}$

⑤ $3\frac{1}{4} \times 2\frac{1}{2} = \boxed{8\frac{1}{8}}$

⑥ $3\frac{1}{3} \times 1\frac{1}{3} = \boxed{4\frac{4}{9}}$

⑦ $1\frac{1}{4} \times 1\frac{1}{5} = \boxed{1\frac{1}{2}}$

⑧ $2\frac{4}{5} \times 1\frac{1}{2} = \boxed{4\frac{1}{5}}$

⑨ $2\frac{3}{5} \times 2\frac{1}{4} = \boxed{5\frac{17}{20}}$

B. Solve the problems below.

Solve

⑩ Find the area of a garden that is $3\frac{1}{2}$ meters long and $1\frac{1}{3}$ meters wide.

A = $4\frac{2}{3}$ sq m

⑪ If a plane flies $8\frac{1}{2}$ miles in one minute, how far will it fly in $2\frac{1}{2}$ minutes?

$21\frac{1}{4}$ miles

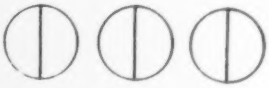
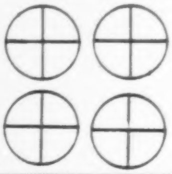
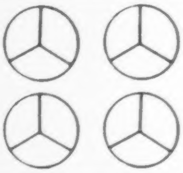
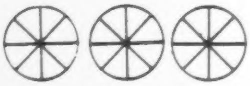
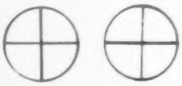
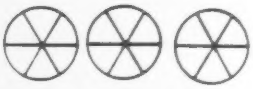
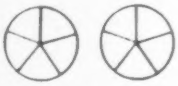
Do you remember?

$ 2.74 rounds to $ 3.00
x 12 rounds to x 10
estimated product $30.00

P.O. 5.06.10.01

NAME: ______________________ **CLASS:** __________ **DATE:** ________

Use the model in each example to help you divide a whole number by a fraction.

MODEL	NUMBER SENTENCE	WHAT DOES IT ASK?
A. 	$3 \div \frac{1}{2} = \boxed{6}$ $3 \div \frac{1}{2} = \frac{6}{2} \div \frac{1}{2} = \boxed{6}$	How many halves are there in 3?
B. 	$4 \div \frac{1}{4} = \boxed{16}$ $4 \div \frac{1}{4} = \frac{16}{4} \div \frac{1}{4} = \boxed{16}$	How many fourths are there in 4?
C. 	$4 \div \frac{1}{3} = \boxed{12}$ $4 \div \frac{1}{3} = \frac{12}{3} \div \frac{1}{3} = \boxed{12}$	How many thirds are there in 4?
D. 	$3 \div \frac{1}{8} = \boxed{24}$ $3 \div \frac{1}{8} = \frac{24}{8} \div \frac{1}{8} = \boxed{24}$	How many eighths are there in 3?
E. 	$2 \div \frac{1}{4} = \boxed{8}$ $2 \div \frac{1}{4} = \frac{8}{4} \div \frac{1}{4} = \boxed{8}$	How many fourths are there in 2?
F. 	$3 \div \frac{1}{6} = \boxed{18}$ $3 \div \frac{1}{6} = \frac{18}{6} \div \frac{1}{6} = \boxed{18}$	How many sixths are there in 3?
G. 	$2 \div \frac{1}{5} = \boxed{10}$ $2 \div \frac{1}{5} = \frac{10}{5} \div \frac{1}{5} = \boxed{10}$	How many fifths are there in 2?

P.O. 5.06.10.02

NAME: ____________________ **CLASS:** ________ **DATE:** ________

A. Find each quotient.

1. $5 \div \frac{1}{3} = \boxed{15}$

What does $5 \div \frac{1}{3}$ ask?
How many thirds are in 5?

What is the quotient? 15

Which fraction in the example renames 5? $\frac{15}{3}$

2. $3 \div \frac{1}{4} = \boxed{12}$

What does $3 \div \frac{1}{4}$ ask?
How many fourths are in 3?

What is the quotient? 12

Which fraction in the example renames 3? $\frac{12}{4}$

3. $2 \div \frac{1}{8} = \boxed{16}$

What does $2 \div \frac{1}{8}$ ask?
How many eighths are in 2?

What is the quotient? 16

Which fraction in the example renames 2? $\frac{16}{8}$

4. $6 \div \frac{1}{2} = \boxed{12}$

What does $6 \div \frac{1}{2}$ ask?
How many halves are in 6?

What is the quotient? 12

Which fraction in the example renames 6? $\frac{12}{2}$

5. $4 \div \frac{2}{3} = \boxed{6}$

What does $4 \div \frac{2}{3}$ ask?
How many two-thirds are in 4?

What is the quotient? 6

Which fraction in the example renames 4? $\frac{12}{3}$

6. $10 \div \frac{2}{5} = \boxed{25}$

What does $10 \div \frac{2}{5}$ ask?
How many two-fifths are in 10?

What is the quotient? 25

Which fraction in the example renames 10? $\frac{50}{5}$

B. Write a number sentence for each of the following statements.

7. How much is three divided by three-fourths? $3 \div \frac{3}{4} = 4$
8. What is the product of 2 and $\frac{1}{8}$? $2 \times \frac{1}{8} = \frac{2}{8}$ or $\frac{1}{4}$
9. How many fifths are in 10? $10 \div \frac{1}{5} = 50$
10. How much is $\frac{2}{3}$ of 12? $\frac{2}{3} \times 12 = 8$

Do you remember?

2.3 x 10 = 23
0.6 x 100 = 60
14.63 x 100 = 1463
1.426 x 100 = 142.6
0.85 x 10 = 8.5
0.25 x 10 = 2.5

P.O. 5.06.10.03

NAME: ______________ **CLASS:** ________ **DATE:** ________

A. Mixed Problem Solving

1. There are 3 pizzas. Each one is cut into eighths. How many slices are there?	$3 \div \frac{1}{8} = 24$
2. Six sandwiches were packed in the picnic basket. If each person eats $\frac{3}{4}$ of a sandwich, how many people can be fed?	$6 \div \frac{3}{4} = 8$
3. Ted ate one-half of a sandwich. Jared ate 4 times as much as Ted. How many sandwiches did Jared eat?	$\frac{1}{2} \times 4 = \frac{4}{2} = 2$
4. Five oranges were cut into thirds. How many pieces are there?	$5 \div \frac{1}{3} = 15$
5. A container holds 4 cups of juice. How many $\frac{1}{2}$ cup servings can be made from this amount?	$4 \div \frac{1}{2} = 8$
6. There are 22 students on line. One-half of them are girls. How many are girls?	$22 \times \frac{1}{2} = 11$

B. Create a word problem which can be solved by division of a whole number by a fraction. Then solve your word problem.

Answers may vary.

____

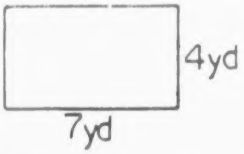
____

____

____

Do you remember?

Find the area and the perimeter of this reactangle:



A = 28 sq yd

P = 22 yd

SHARPENING YOUR SKILLS

Units 55, 56, 57

Name: ____________________ **Class:** ____________ **Date:** ________

Directions: For items 1-8, mark your answers on the answer grid.

1. $4\overline{)28.08}$

ⓐ 70.2 ⓒ 7.2
ⓑ 7.02 ⓓ 702

2. $16.2 \div 10 = \square$

ⓔ 1620 ⓖ 1.62
ⓕ 16.20 ⓗ 0.162

3. $7.5 \div \square = 0.075$

ⓐ 10 ⓒ 1
ⓑ 100 ⓓ 0

4. Which fraction expresses the product in lowest terms?

$5 \times 2\frac{2}{4} = \square$

ⓔ $10\frac{2}{4}$ ⓖ $12\frac{1}{2}$
ⓕ $\frac{50}{4}$ ⓗ $10\frac{1}{2}$

5. Mary and Sal drank $3\frac{1}{2}$ cups of milk each week. How many cups of milk did they drink after five weeks?

ⓐ $17\frac{1}{2}$ ⓒ 10
ⓑ 7 ⓓ Not Here

6. $15 \div \frac{2}{6} = \square$

ⓔ 5 ⓖ 180
ⓕ 45 ⓗ 92

7. Reduce to lowest terms.

$2\frac{1}{2} \times 3\frac{1}{3} = \square$

ⓐ $6\frac{1}{6}$ ⓒ $5\frac{2}{5}$
ⓑ $8\frac{1}{3}$ ⓓ $5\frac{5}{6}$

8. $0.6\overline{)1.26}$

ⓔ 0.21 ⓖ 0.021
ⓕ 2.1 ⓗ Not Here

Answer Grid

1. ⓐ ● ⓒ ⓓ
2. ⓔ ⓕ ● ⓗ
3. ⓐ ● ⓒ ⓓ
4. ⓔ ⓕ ● ⓗ
5. ● ⓑ ⓒ ⓓ
6. ⓔ ● ⓖ ⓗ
7. ⓐ ● ⓒ ⓓ
8. ⓔ ● ⓖ ⓗ

P.O. 5.08.01.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Solve the following word problems.

1. The temperature is at 0°. What will the temperature be if it gets 10° colder?

   The temperature will be $^{-}10°$.

2. In one month, a person gained 5 pounds. The next month, that person lost 7 pounds. Is the person heavier or lighter in weight than two months ago? lighter How can you express the weight change using a signed number? $^{-}2$ lb

3. A skyscraper has 5 floors below ground level. If the elevator is on the 3rd floor above ground level and then goes down five floors, at which floor will it be?

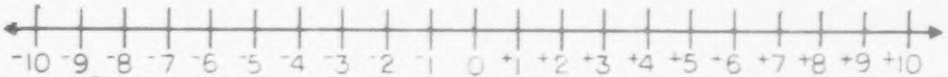
   2 floors below ground level

4. Tony owes 8 dollars to his sister. What signed number expresses Tony's debt after he pays her 5 dollars? $^{-}3$ dollars

B. Complete the following sentences.

As we move to the right on a number line, in a positive direction, the numbers become greater. As we move to the left on a number line, in a negative direction, the numbers become less. Any number on the number line is less than any number to its right. Any number on the number line is greater than any number to its left.

C. Complete the number line and write the appropriate comparison sign between the numbers in each pair.



a) $^{+}4 < {}^{+}5$

b) $^{-}2 > {}^{-}3$

c) $^{+}5 > {}^{-}6$

d) $^{-}7 < {}^{+}2$

e) $0 > {}^{-}3$

f) $^{+}2 > {}^{-}2$

CHALLENGE!

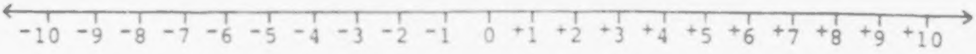
Complete each expression by writing a numeral in the box that will make that expression true. Answers may vary.

$^{-}5 >$ ☐ $0 >$ ☐ $^{+}4 <$ ☐ ☐ $> {}^{-}8$

P.O. 5.08.01.03

NAME: ______________________ **CLASS:** ______ **DATE:** ____________

Use the number line to find the sum of each pair of numbers below.



① $^{+}4 + {}^{+}2 = \boxed{^{+}6}$

② $^{-}4 + {}^{-}3 = \boxed{^{-}7}$

③ $^{+}2 + {}^{-}2 = \boxed{0}$

④ $^{-}5 + {}^{+}4 = \boxed{^{-}1}$

⑤ $^{+}6 + {}^{-}9 = \boxed{^{-}3}$

⑥ $^{+}5 + {}^{-}9 = \boxed{^{-}4}$

⑦ $^{-}3 + {}^{+}6 = \boxed{^{+}3}$

⑧ $^{-}7 + {}^{-}2 = \boxed{^{-}9}$

⑨ $0 + {}^{-}7 = \boxed{^{-}7}$

⑩ $^{+}8 + {}^{-}8 = \boxed{0}$

⑪ $^{-}9 + {}^{+}7 = \boxed{^{-}2}$

⑫ $^{+}4 + 0 = \boxed{^{+}4}$

⑬ $^{+}10 + {}^{-}5 = \boxed{^{+}5}$

⑭ $^{-}2 + {}^{+}10 = \boxed{^{+}8}$

⑮ $^{-}8 + {}^{-}2 = \boxed{^{-}10}$

⑯ $^{+}1 + {}^{-}6 = \boxed{^{-}5}$

Do you remember?

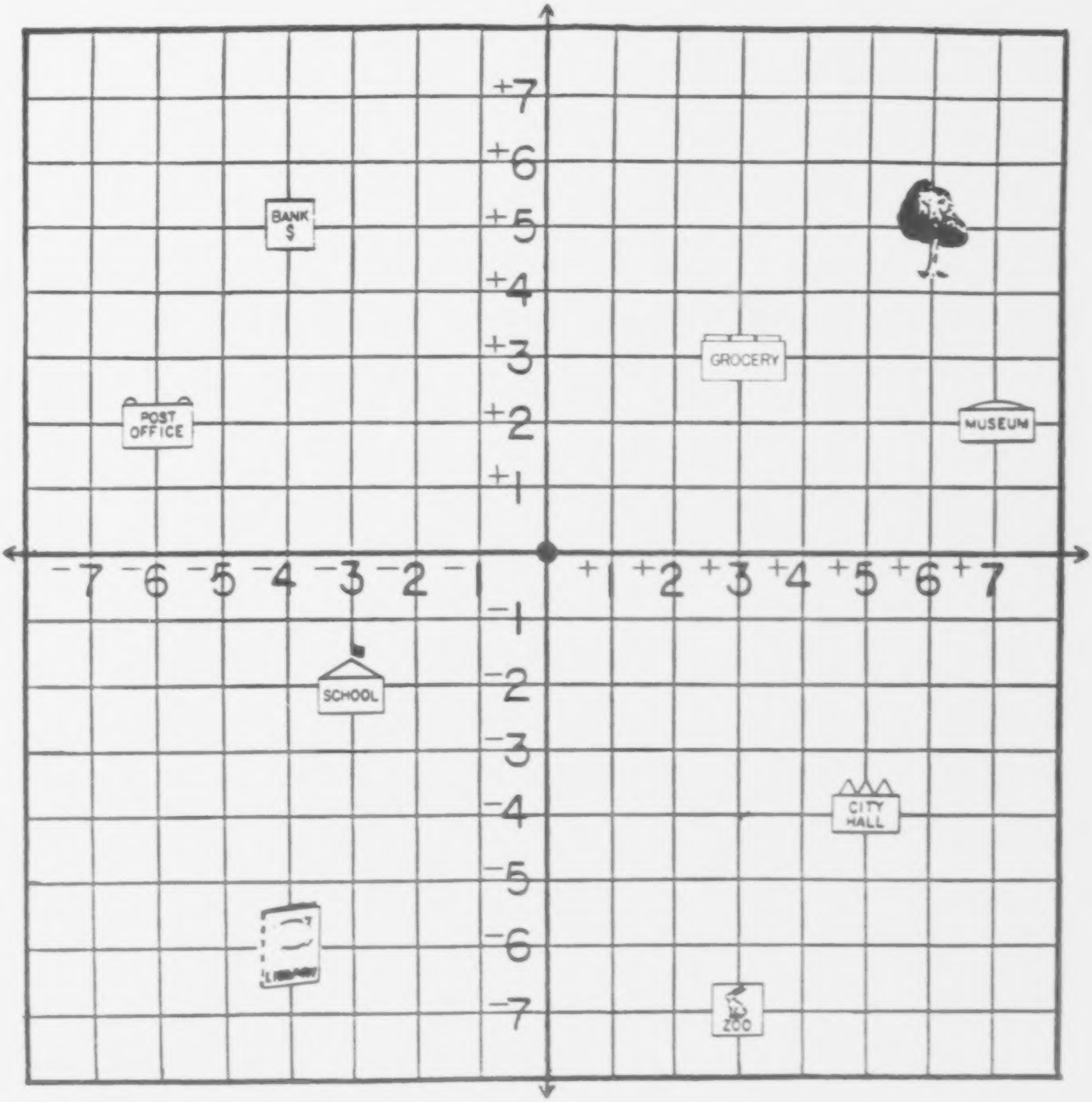
Rename each pair of fractions as fractions with a common denominator.

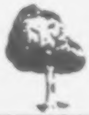
$\frac{2}{3} = \boxed{\frac{4}{6}}$	$\frac{3}{8} = \boxed{\frac{3}{8}}$	$\frac{2}{3} = \boxed{\frac{8}{12}}$	$\frac{1}{5} = \boxed{\frac{4}{20}}$
$\frac{1}{2} = \boxed{\frac{3}{6}}$	$\frac{3}{4} = \boxed{\frac{6}{8}}$	$\frac{3}{4} = \boxed{\frac{9}{12}}$	$\frac{1}{4} = \boxed{\frac{5}{20}}$

P.O. 5.09.07.01

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Name the coordinates of each place (point) on the grid.

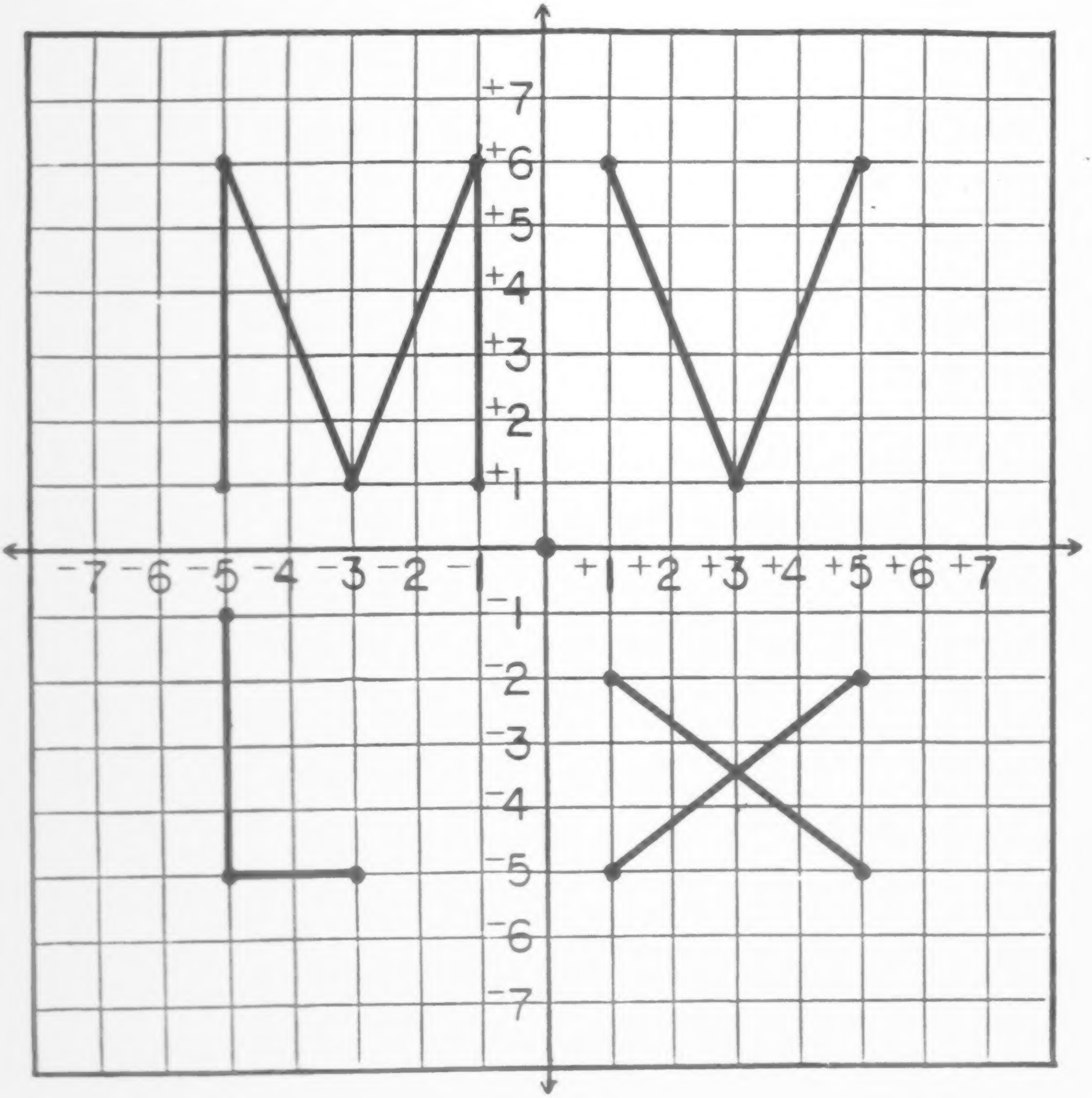

+7
+6
+5
+4
+3
+2
+1
-1
-2
-3
-4
-5
-6
-7
-7 -6 -5 -4 -3 -2 -1
+1 +2 +3 +4 +5 +6 +7
BANK $
POST OFFICE
GROCERY
MUSEUM
SCHOOL
CITY HALL
LIBRARY
ZOO

GROCERY $(^{+}3,^{+}3)$	BANK \$ $(^{-}4,^{+}5)$	LIBRARY $(^{-}4,^{-}6)$
MUSEUM $(^{+}7,^{+}2)$	POST OFFICE $(^{-}6,^{+}2)$	CITY HALL $(^{+}5,^{-}4)$
 $(^{+}6,^{+}5)$	SCHOOL $(^{-}3,^{-}2)$	ZOO $(^{+}3,^{-}7)$

P.O. 5.09.07.02

NAME: ______________________ CLASS: _______ DATE: ______________

Can you find the four mystery letters of the alphabet? Plot the coordinates and connect the points in the order that you locate them to form a letter.

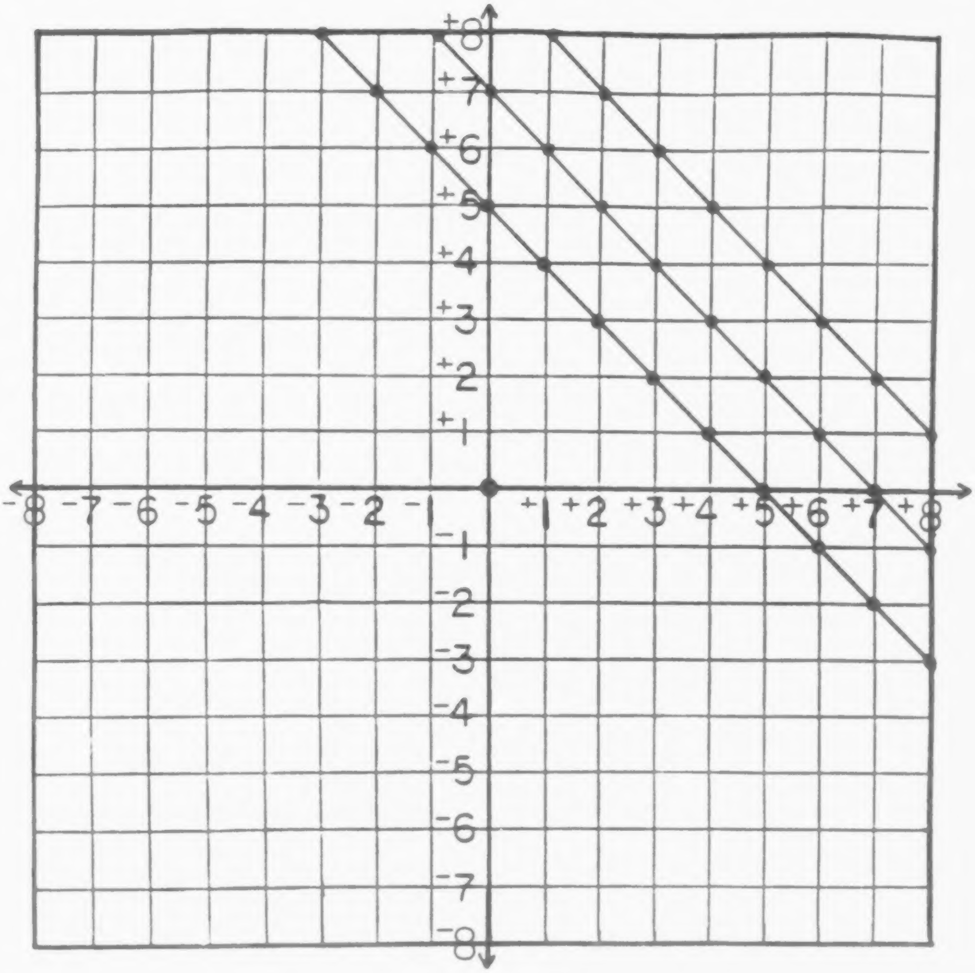


1st letter	(⁻5,1) to (⁻5,6) to (⁻3,1) to (⁻1,6) to (⁻1,1)
2nd letter	(1,6) to (3,1) to (5,6)
3rd letter	(⁻5,⁻1) to (⁻5,⁻5) to (⁻3,⁻5)
4th letter	(1,⁻2) to (5,⁻5) and (5,⁻2) to (1,⁻5)
The four mystery letters are M, V, L, X	

P.O. 5.09.07.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Solve the equations. Fill in the variables and plot the coordinates.



□ + △ = 7

□	△	plotted
7	0	Yes
6	1	Yes
5	2	Yes
4	3	Yes
3	4	Yes
2	5	Yes
1	6	Yes
0	7	Yes
8	⁻1	Yes
⁻1	8	Yes

□ + △ = 9

□	△	plotted
9	0	No
8	1	Yes
7	2	Yes
6	3	Yes
5	4	Yes
4	5	Yes
3	6	Yes
2	7	Yes
1	8	Yes
0	9	No

□ + △ = 5

□	△	plotted
5	0	Yes
4	1	Yes
3	2	Yes
2	3	Yes
1	4	Yes
0	5	Yes
⁻1	6	Yes
⁻2	7	Yes
⁻3	8	Yes
6	⁻1	Yes
7	⁻2	Yes
8	⁻3	Yes

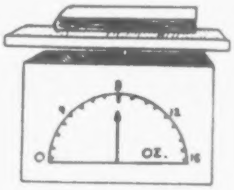
P.O. 5.10.08.01 & .04

NAME: ______________________ **CLASS:** ________ **DATE:** ________

1.Complete the chart.

1 lb = 16 oz
2 lb = 32 oz
4 lb = 64 oz
6 lb = 96 oz

2.



This book weighs 8 ounces. What is its weight in pounds?

The book weighs $\frac{1}{2}$ lb.

3. Maria's puppy weighs $8\frac{1}{4}$ pounds. If a scale showed its weight in ounces, how many ounces would the puppy weigh?

It would weigh 132 ounces.

4. A watermelon weighs 7 pounds. How many 8 ounce slices could be cut from it?

There could be 14 8 ounce slices cut from the watermelon.

5. Complete the chart.

1 ton = 2000 lb
$1\frac{1}{2}$ tons = 3000 lb
$1\frac{3}{4}$ tons = 3500 lb
$5\frac{1}{4}$ tons = 10,500 lb
2 tons = 4000 lb
$4\frac{1}{2}$ tons = 9000 lb

6. A truck weighs $2\frac{1}{4}$ tons. What is its weight in pounds?

The truck weighs 4500 pounds.

7. A 3 pound chocolate bar is cut into 1 ounce pieces. How many pieces will there be?

There will be 48 1 oz pieces.

8. How many ounces are there in 20 pounds?

There are 320 oz in 20 pounds.

9. A truck weighs 8000 pounds. What is its weight in tons?

The truck weighs 4 tons.

P.O 5.10.08.02 &.04

NAME: ______________________ **CLASS:** ________ **DATE:** ______

1. Write the missing numbers.

7000 milligrams = 7 grams
8500 milligrams = $8\frac{1}{2}$ grams
4250 milligrams = $4\frac{1}{4}$ grams
2750 milligrams = $2\frac{3}{4}$ grams

2. Write the missing numbers.

2000 milligrams = 2 grams
10,000 mg = 10 grams
3,000 grams = 3 kilograms
9,500 kilograms = $9\frac{1}{2}$ metric tons

3. How many 500 gram slices can be cut from a 7 kilogram watermelon?

There can be 14 500 gm slices cut from a 7kg watermelon.

4. How many grams does a $\frac{1}{2}$ kg onion weigh?

It weighs 500 grams.

5. Write the missing numbers.

2000 kg = 2 metric tons
5,250 kg = $5\frac{1}{4}$ metric tons
1,000 kg = 1 metric ton
7500 kg = $7\frac{1}{2}$ metric tons

6. A bag of groceries weighs 7,500 grams. What is its weight in kilograms?

The bag weighs $7\frac{1}{2}$ kilograms.

7. Workers were erecting a statue which weighed $6\frac{3}{4}$ metric tons. What was the statue's weight in kilograms?

The statue weighed 6750 kilograms.

8. An experiment called for $2\frac{1}{2}$ grams of sulfur. What was the sulfur's weight in milligrams?

$2\frac{1}{2}$ gm of sulfur = 2500 mg

Do you remember?

$$\begin{array}{r} 2\frac{3}{4} \\ -1\frac{1}{2} \\ \hline 1\frac{1}{4} \end{array} \qquad \begin{array}{r} 3\frac{1}{2} \\ -1\frac{3}{8} \\ \hline 2\frac{1}{8} \end{array} \qquad \begin{array}{r} 1\frac{1}{3} \\ +2\frac{1}{4} \\ \hline 3\frac{7}{12} \end{array}$$

P.O. 5.10.08.03 - .04

NAME: ______________________ **CLASS:** __________ **DATE:** ________

Follow the directions below.

① Estimate the weight of each item below in metric weight. Find the actual weight. Find the difference between your estimate and the actual weight. Express the difference as a signed number, showing how your imagination changed the real value.

Item	Estimate	Actual	Difference
chalkboard eraser			
scissors	Answers may vary.		
math textbook			
box of crayons			

② Estimate the weight of each item below in customary measures. Find the actual weight. Find the difference between your estimate and the actual weight. Use a signed number to express the difference (the change of the actual value you made when estimating).

Item	Estimate	Actual	Difference
chalkboard eraser			
a stapler	Answers may vary.		
yourself			
your teacher			

③ Jack estimated his dog's weight to be $8\frac{1}{2}$ kilograms. The actual weight was 1500 grams more. What was his dog's actual weight in kilograms?

The dog's actual weight was 10 kg.

④ Barbara's estimate of her hair clip's weight was 800 mg. The actual weight was 1 gram. What is the difference, in mg, between Barbara's estimate and the actual weight?

The difference is 200 mg.

SHARPENING YOUR SKILLS

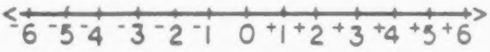
Units 58, 59, 60

Name: ______________ **Class:** __________ **Date:** ________

1. The temperature was 8°F in the morning. In the evening the temperature dropped 10°. What was the evening temperature?

18°F	2°F	$^-2$°F	0°F
ⓐ	ⓑ	●	ⓓ

Use the number line below to answer questions 2 and 3.



2. Which is true?

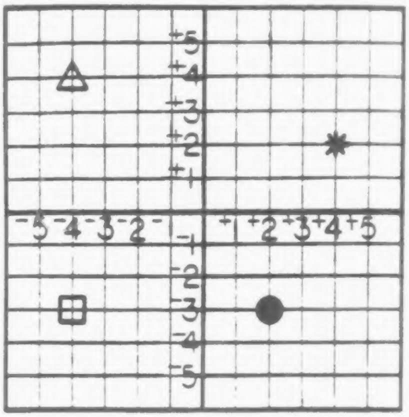
ⓔ $^-3 > ^+2$ ⓖ $^+3 > ^+4$

ⓕ $^-5 < ^-6$ ● $^+2 > ^-5$

3. Find the sum.

$^+4 + ^-1 = \boxed{^+3}$

4. Name the ordered pair which tells the location of each point.



✱ $(^+4, ^+2)$ □ $(^-4, ^-3)$

● $(^+2, ^-3)$ △ $(^-4, ^+4)$

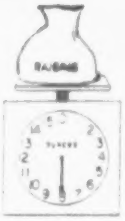
6. Complete the chart below.

ounces (oz)	**pounds** (lb)	**tons** (T)
16 oz	1	▨
▨	2000 lb	1
8 oz	$\frac{1}{2}$ lb	▨
▨	1000 lb	$\frac{1}{2}$ ton

7. Complete the chart below.

milligrams	**grams**	**kilograms**	**metric tons**
1000 mg	1 gram	▨	▨
▨	1000 g	1 kg	▨
▨	▨	1000 kg	one metric ton

8. How much does the bag of raisins weigh?



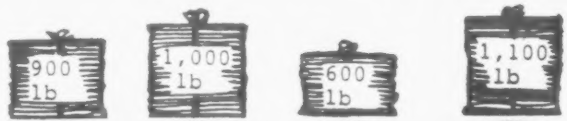
ⓐ 8 pounds

ⓑ more than one lb

● $\frac{1}{2}$ lb

ⓓ Not Here

9. Henry's father brought two bales of old newspapers to the recycling plant. Their total weight was one ton. Which bundles of newspapers did he take?



900 lb	1,000 lb	600 lb	1,100 lb
●	yes	yes	●
no	●	●	no

P.O. 5.10.09.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

A. Complete the chart below.

$\frac{1}{2}$ ft = 6 in.	$\frac{5}{6}$ ft = 10 in.
$\frac{1}{3}$ ft = 4 in.	$\frac{1}{2}$ yd = 18 in.
$\frac{2}{3}$ ft = 8 in.	$\frac{1}{3}$ yd = 12 in.
$\frac{1}{4}$ ft = 3 in.	$\frac{2}{3}$ yd = 24 in.
$\frac{3}{4}$ ft = 9 in.	$\frac{1}{3}$ yd = 1 ft
$\frac{1}{6}$ ft = 2 in.	$\frac{2}{3}$ yd = 2 ft

B. Solve the problems below.

1. Ms. Barton bought $\frac{1}{3}$ yard of red ribbon and $\frac{2}{3}$ yard of green ribbon. How many more inches of green ribbon did she buy than red ribbon? 12 inches

2. Ted bought $1\frac{3}{4}$ feet of wire. He used 6 inches of wire. How many inches does he have left? 15 inches

3. Marcia has $\frac{3}{4}$ foot of white lace and $\frac{3}{4}$ foot of beige lace. What fractional part of a yard of lace does she have? $\frac{1}{2}$ yd

4. Which is longer, $\frac{5}{6}$ foot of wood or $\frac{1}{3}$ yard of wood? $\frac{1}{3}$ yd

5. Sue has $\frac{1}{4}$ foot of string. How many more inches of string does she need to have $\frac{1}{2}$ yard of string? 15 in.

CHALLENGE!

The length of the wall in the Brown's living room is $11\frac{1}{2}$ feet. If they place a couch that is $2\frac{1}{3}$ yards long in the middle of the wall, how many inches of the wall will extend beyond the couch on each side? $2\frac{1}{4}$ ft

P.O. 5.10.10.01-.04

NAME: ____________ **CLASS:** ______ **DATE:** ________

Follow the directions below.

A. Complete the time relationships.

9 months = $\frac{3}{4}$ year

$1\frac{1}{2}$ years = 18 months

5 minutes = 300 seconds

$2\frac{1}{2}$ hours = 150 minutes

$1\frac{3}{4}$ hours = 105 minutes

3 decades = 30 years

55 years = $5\frac{1}{2}$ decades

500 years = 5 centuries

$5\frac{3}{4}$ centuries = 575 years

1 decade = 120 months

B. Write >, < or = so that each statement is true.

4 decades < $\frac{1}{2}$ century

35 months < $3\frac{1}{2}$ years

$6\frac{1}{2}$ years = 78 months

$\frac{1}{2}$ decade = 5 years

150 seconds < $3\frac{1}{2}$ minutes

50 decades = 5 centuries

$4\frac{3}{4}$ hours > 275 minutes

$12\frac{1}{2}$ minutes > 650 seconds

C. Solve each open sentence.

5 minutes + 30 seconds = $\boxed{330}$ seconds

$\boxed{2}$ years + 6 months = 30 months

1 decade + $\boxed{2}$ years = 12 years

3 centuries − $\boxed{50}$ years = 250 years

$\boxed{\frac{1}{2}}$ hour − 15 minutes = $\frac{1}{4}$ hour

210 minutes − $\frac{1}{2}$ hour = $\boxed{3}$ hours

1 century − 10 decades = $\boxed{0}$ years

CHALLENGE!

Light travels at a rate of 186,000 miles per second. How far will it travel in 1 hour?

Light travels 669,600,000 miles in 1 hour.

P.O. 5.10.10.05

NAME: ____________________ **CLASS:** ________ **DATE:** ____________

Solve the problems below.

1. What will the date be three decades from today?

Answers may vary.

2. What was the date two centuries ago?

Answers may vary.

3. How many months are in $2\frac{1}{3}$ years?

28 months

4. How many minutes are in $3\frac{1}{2}$ hours?

210 minutes

5. Mr. Berman worked as a teller in the Third Federal Bank for $2\frac{1}{2}$ years. He worked as a teller in the Second Federal Bank for $\frac{2}{3}$ year. How many months did he work as a teller?

38 months

6. Janice rented two movies. The first movie was 90 minutes long. The second movie was 120 minutes long. If Janice watched both movies, how many hours did she spend watching the movies?

$3\frac{1}{2}$ hours

7. An athlete ran the 400 meter race in $\frac{3}{4}$ minute. It took another athlete 1 minute to run the same race. How many seconds earlier did the faster athlete cross the finish line?

15 seconds

8. Maryann worked in her garden for $1\frac{1}{2}$ hours in the morning and $\frac{3}{4}$ hour in the afternoon. How many minutes did she spend working in her garden?

135 minutes

9. Lee's house was built two decades ago. Marty's house was built $4\frac{1}{2}$ decades ago. How many years older is Marty's house than Lee's house?

25 years

10. Mrs. Hayes parked her car in a parking lot that charges $2.00 per hour. If Mrs. Hayes parked her car there for 240 minutes, how much did she have to pay?

$8.00

P.O. 5.10.11.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Read each problem. Write in your own words the method or formula that you will use to solve it. Then solve the problem.

1. Last year Ericka was in the New York City Marathon. She ran the first 3 hours averaging 7 miles per hour. How many miles did she run during those 3 hours?

Plan: Multiply number of hours by miles per hour.

Solution:

3 hr x 7 miles per hour = 21 miles

2. Kelly's father drives to work every day. He drives 2 km every minute on the average. If it takes him 42 minutes to get to work, how many km does he drive?

Plan: Multiply number of minutes by km per hour.

Solution:

42 min x 2 km per min = 84 km

3. The school bus that picked up Denise for school travels an average of 17 miles per hour. It took the driver 3 hours from the time he left the garage until the time he returned. How many miles did he travel?

Plan: Multiply hours by miles per hour.

Solution:

17 x 3 = 51 miles

4. The train that goes from New York City to Albany takes four hours to travel 150 miles. If it travels an average of 35 mph for 3 hours, how far does it have to travel during the last hour?

Plan: Multiply mph by 3 hr. Subtract from 150.

Solution:

25 x 3 = 105

150 - 105 = 45 mph

SHARPENING YOUR SKILLS

Units 61, 62, 63

Name: ____________________ **Class:** ____________ **Date:** ________

1. Shade in the circle below the correct fraction.

9 months = _____ year

$\frac{1}{3}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{9}$
ⓐ	ⓑ	●	ⓓ

30 minutes = _____ hour

$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{3}$	$\frac{3}{2}$
●	ⓕ	ⓖ	ⓗ

15 seconds = ____ minute

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{15}$
ⓐ	●	ⓒ	ⓓ

2. Shade in the circle below the correct fraction.

2 feet = ____ yard

$\frac{1}{1}$	$\frac{1}{2}$	$\frac{3}{2}$	$\frac{2}{3}$
ⓔ	ⓕ	ⓖ	●

12 inches = ____ yard

$\frac{3}{12}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{2}{3}$
ⓐ	●	ⓒ	ⓓ

6 inches = ____ foot

$\frac{1}{6}$	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{1}{1}$
ⓔ	●	ⓖ	ⓗ

3. Complete the formula.

Rate x Time = Distance

If Ms. Green drove at 30 mph for 2 hours, what is the distance she would travel?

60 miles

4. In 1992, how many centuries will have passed since Columbus discovered America?

5 centuries will have passed since then.

5. Seven decades have gone by since World War I ended. How many years have passed?

70 years have passed since World War I ended.

6. The winner of the marathon finished in 135 minutes. Another way to express this time is $2\frac{1}{4}$ hours.

7. The football player ran for 18 feet. How many yards did he run?

He ran 6 yards.

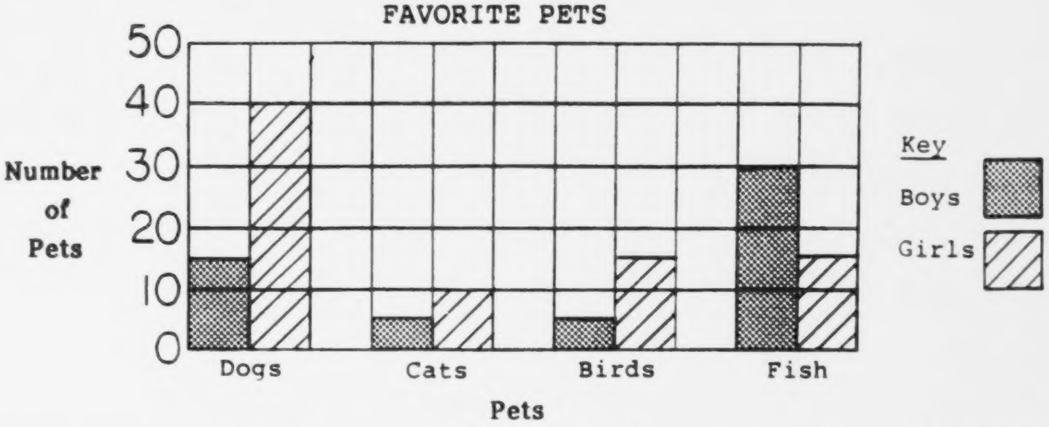
8. Bill drove at an average speed of 35 miles an hour. When he stopped to rest after 7 hours, how far had he driven?

He had driven 245 miles.

P.O. 5.12.07.01

NAME: ______________________ CLASS: ______ DATE: ____________

Study the double bar graph. Answer the questions.



In a survey, boys and girls voted for their favorite pets. The results of the data collected are shown on a double bar graph above. Use the double bar graph to answer these questions.

1. Which pet received the greatest number of votes from the boys?
   Fish
2. Which pet received the least votes from the girls?
   Cats
3. Which two pets received the same number of votes from boys?
   Cats and Birds
4. How many girls voted for dogs? 40
5. Which pet received the most votes all together? Dogs
6. How many boys voted all together? 55
   How many girls voted all together? 80
7. How many more girls than boys favored dogs? 25
8. Some boys and girls voted for fish as their favorite pet. Write two or three sentences to describe how they voted.

   Answers may vary.

P.O. 5.12.07.02

NAME: ______________________________ **CLASS:** __________ **DATE:** ______

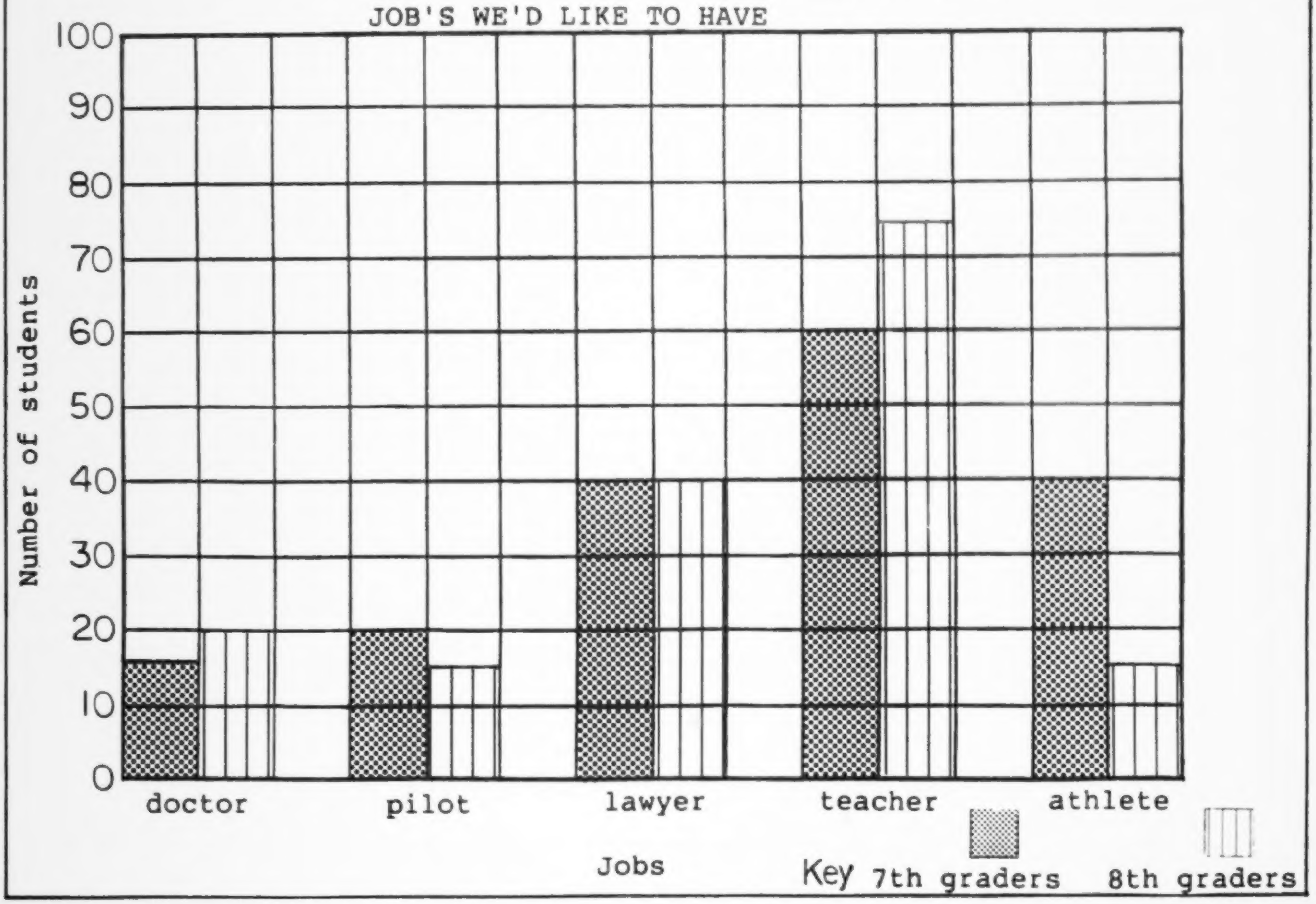
A class surveyed the 7th and 8th graders in a school to find out which kinds of jobs they would like to have as adults. On the chart below are the results of the survey.

Construct a double bar graph to show the results.

Job	7th Graders	8th Graders
doctor	15	20
pilot	20	15
lawyer	40	40
teacher	60	75
star athlete	40	15

REMEMBER

*Use a key to explain the bars.
*Use different color bars for 7th graders and 8th graders.
*Use a title to describe the graph.
*Place descriptive labels on the vertical axis and on the horizontal axis.



P.O. 5.13.04.01-.02

NAME: ________________ **CLASS:** ______ **DATE:** ________

Read each question. Use the given information to write an equation. Then solve each problem by working backward.

Price List

Chocolate Cake.......	$2.95
Apple Pie............	3.25
Cookies (each).......	.50

1. Sandra bought a chocolate cake and some cookies. She paid $3.95 in all. How much did the cookies cost?

Equation: ________

The cookies cost $1.00.

3. Jane spent 89¢ to buy a pencil, a memo pad, and a ruler. The pencil cost 19¢. The memo pad and the ruler were the same price. How much was the ruler?

The ruler cost 35¢.

2. Nicole used 251 pages of looseleaf paper so far this year. If she still has 124 pages left, with how many pages did she start?

She started with 375 pages.

4. Create your own problem using the bakery price list given in problem 1. Then solve it by working backward.

Your Problem: ________

Answers may vary.

Solution: ________

P.O. 5.04.03.01&.04

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

A. Solve each word problem below.

1. There are 1000 cartons of pencils with 200 pencils in each carton. How many pencils are there in all?

   200,000 pencils

2. Acme Supermarket has 3000 jars of olives with 300 olives in each jar. How many olives are there in all?

   900,000 olives

3. There are 900 movie theaters in New York City. If there are 2000 people in each theater, how many people are watching movies?

   1,800,000 people

4. Six hundred trucks are on the highway. Each truck weighs seven thousand pounds. How many pounds is this in all?

   4,200,000 pounds

B. For question 5-7, tell which is greater, A or B.

5. Ⓐ 300 x 5000 Ⓑ 4000 x 400

   B

6. Ⓐ 9000 x 600 Ⓑ 7000 x 800

   B

7. Ⓐ five hundred cars, each costing $8000

   Ⓑ 400 trucks, each costing nine thousand dollars

   A

C. Match each pair of factors with its product. Write the letter in Column II next to the question number in Column I.

	Column I		Column II
1.	D	300 x 6000	A. 250,000
2	F	5000 x 500	B. 1,600,000
3	B	800 x 2000	C 600,000
4.	G	100 x 8000	D. 1,800,000
5.	C	3000 x 200	E. 1,600,000
6.	A	500 x 500	F. 2,500,000
7.	E	8000 x 200	G. 800,000

CHALLENGE!

How many pennies are there in $2000?

200,000 pennies

P.O. 5.04.03.02-.04

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

Mixed Problem Solving

1. 4397 members of the Police Athletic League attended a Rangers hockey game. If each ticket cost $7.50, how much did the league spend for all the tickets?

Estimate Solve

$32,977.50

2. Another 5794 people attended the same hockey game. They each paid $8.75 for their tickets. What was the total cost of these tickets?

Estimate Solve

$50,697.50

3. If you consume 1825 calories on Thursday and 885 on Friday, how many calories were consumed on both days?

Estimate Solve

2710 calories

4. One thousand, two hundred sixty-five students in Waverly Elementary School are taking a Mathematics test. If there are 675 boys taking the test, how many girls are taking the test?

Estimate Solve

590 girls

5. Each of the 1629 King Cool Fan Clubs bought 250 tickets for their next concert. How many tickets were purchased by the fan clubs?

Estimate Solve

407,250 tickets

6. There are 1132 students who volunteer 115 hours per year to help younger students. How many hours of volunteer service are given each year?

Estimate Solve

130,180 hours

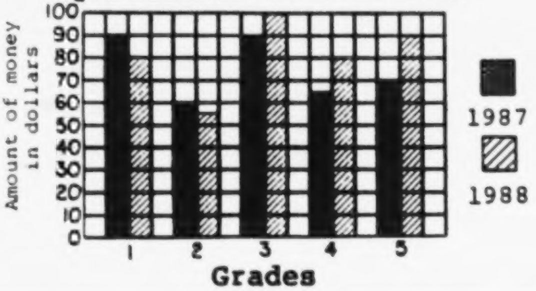
SHARPENING YOUR SKILLS

Units 64, 65, 66

Name: ____________________ **Class:** ____________ **Date:** _________

Use the double bar graph below to answer questions 1-4.

Money Donated to UNICEF by Students in P.S. 2000



1. Which grade had the greatest two year total?

(a) Grade 1 (c) Grade 5

● Grade 3 (d) Not Here

2. Which grade donated twenty dollars more in 1988 than in 1987?

(e) Grade 4 (g) Grade 2

● Grade 5 (h) Not Here

3. How much more was donated by Grade 4 in 1988 than by Grade 2 in 1987?

(a) $10 (c) $30

(b) $15 ● Not Here

4. How much money was donated by the students in Grades 1 through 5 in 1988?

● $405 (g) $395

(f) $375 (h) Not Here

5. Jake had $7.53 in his bank after buying 4 donuts for thirty-five cents each and 2 sodas at 75 cents each. How much money was in Jake's bank before these purchases?

$10.43

6.

$$\begin{array}{r} 4000 \\ \underline{\times\ 200} \\ 800{,}000 \end{array}$$

7.

$$\begin{array}{r} 5000 \\ \underline{\times\ 300} \\ 1{,}500{,}000 \end{array}$$

8.

$$\begin{array}{r} 2000 \\ \underline{\times\ 900} \\ 1{,}800{,}000 \end{array}$$

9.

$$\begin{array}{r} 2431 \\ \underline{\times\ 312} \end{array}$$

(a) 14,586 ● 758,472

(b) 758,427 (d) Not Here

10.

$$\begin{array}{r} 4053 \\ \underline{\times\ 175} \end{array}$$

● 709,275 (g) 648,065

(f) 79,275 (h) Not Here

P.O. 5.05.04.01

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Complete each division example and check.

check

① 5000 ÷ 500 = $\boxed{10}$ — 10 x 500 = 5000

② 9000 ÷ 300 = $\boxed{30}$ — 30 x 300 = $\boxed{9000}$

③ 8000 ÷ 200 = $\boxed{40}$ — 40 x 200 = $\boxed{8000}$

④ 12,000 ÷ 400 = $\boxed{30}$ — 30 x 400 = $\boxed{12{,}000}$

check

⑤ 20,000 ÷ 200 = $\boxed{100}$ — 100 x 200 = 20,000

⑥ 80,000 ÷ 400 = $\boxed{200}$ — 200 x 400 = $\boxed{80{,}000}$

⑦ 60,000 ÷ 300 = $\boxed{200}$ — 200 x 300 = $\boxed{60{,}000}$

⑧ 15,000 ÷ 500 = $\boxed{30}$ — 30 x 500 = $\boxed{15{,}000}$

⑨ $$\begin{array}{r} 30 \\ 200\overline{)6000} \end{array}$$

check

$$\begin{array}{r} 200 \\ \times\ 30 \\ \hline 6{,}000 \end{array}$$

⑩ $$\begin{array}{r} 40 \\ 300\overline{)12{,}000} \end{array}$$

check

$$\begin{array}{r} 300 \\ \times\ 40 \\ \hline 12{,}000 \end{array}$$

⑪ $$\begin{array}{r} 300 \\ 300\overline{)90{,}000} \end{array}$$

check

$$\begin{array}{r} 300 \\ \times 300 \\ \hline 90{,}000 \end{array}$$

⑫ $$\begin{array}{r} 200 \\ 200\overline{)40{,}000} \end{array}$$

check

$$\begin{array}{r} 200 \\ \times 200 \\ \hline 40{,}000 \end{array}$$

CHALLENGE! Answers may vary.

In your own words, explain why we are able to simplify these division problems by removing zeros as shown in model problems 1, 2, and 5 above.

P.O. **5.05.04.02-.03**

NAME: ____________________ **CLASS:** ________ **DATE:** ____________

A. Divide and check.

① $22\frac{242}{300}$

$300\overline{)6842}$

check

$$\begin{array}{r} 22 \\ \times 300 \\ \hline 6600 \\ +\ 242 \\ \hline 6842 \end{array}$$

② $21\frac{257}{400}$

$400\overline{)8657}$

check

$$\begin{array}{r} 400 \\ \times\ 21 \\ \hline 400 \\ 8000 \\ \hline 8400 \\ +\ 257 \\ \hline 8657 \end{array}$$

③ $121\frac{353}{600}$

$600\overline{)72,953}$

check

$$\begin{array}{r} 121 \\ \times 600 \\ \hline 72,600 \\ +\ \ \ 353 \\ \hline 72,953 \end{array}$$

④ $126\frac{276}{500}$

$500\overline{)63,276}$

check

$$\begin{array}{r} 126 \\ \times 500 \\ \hline 63,000 \\ +\ \ \ 276 \\ \hline 63,276 \end{array}$$

B. Read each problem and then solve it. Is your answer reasonable?

1. 86,400 magazines are printed each week by the NEWS AND VIEWS MAGAZINE company. To make delivery easier the magazines are packaged into bundles of 400. How many bundles are sent out each week?

216 bundles

2. The ACME TIRE COMPANY produced 3,000 tires. They ship 200 tires on each truck to their stores around the city. How many truckloads will be needed to deliver the tires?

15 truckloads

P.O. 5.05.05.01&.03

NAME: ______________________ **CLASS:** _______ **DATE:** ______________

Estimate the quotients.

① $287\overline{)9763}$

10 x 287 = 2870   2870 < 9763
20 x

The quotient is between 30 and 40.

② $637\overline{)7589}$

The quotient is between 10 and 20.

③ $354\overline{)89763}$

100 x 354 = 35400   35400 < 89763
200 x

The quotient is between 200 and 300.

④ $111\overline{)77635}$

The quotient is between 600 and 700.

⑤ **In 162 games at Yankee Stadium, there were a total of 2755 empty seats. About how many seats were empty for each game?**

The quotient is between 10 and 20.

⑥ An experiment used a total of 27,863 grams of salt. Equal amounts were placed in each of 248 test tubes. About how many grams of salt were in each tube?

The quotient is between 100 and 200.

P.O. 5.05.05.01-.03

NAME: ______________________ **CLASS:** _______ **DATE:** ____________

Estimate the quotients. Then find the actual quotients.

①

$925\overline{)45672}$

Estimate

$$\begin{array}{r} 46 \\ 1000\overline{)46{,}000} \end{array}$$

Actual Quotient $49\frac{347}{925}$

②

$357\overline{)8964}$

Estimate

$$\begin{array}{r} 22\frac{1}{2} \\ 400\overline{)9000} \end{array}$$

Actual Quotient $25\frac{39}{257}$

③

$153\overline{)76588}$

Estimate

$$\begin{array}{r} 400 \\ 200\overline{)80{,}000} \end{array}$$

Actual Quotient

$500\frac{88}{153}$

④ The Multiple Sclerosis Society received contributions in the amount of $3750. If this money came from 25 people who each gave the same amount, how much did each person give?

Estimate

$$\begin{array}{r} 133\frac{1}{3} \\ 30\overline{)4000} \end{array}$$

Actual Quotient $150

Each person gave $ 150 .

P.O. 5.05.05.03

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

Solve each problem.

1. At the Public Cinema, 21,760 people saw Snow White during the first 32 days it showed there. If every seat was filled for each show, how many people saw Snow White each day?

   680 people

2. Since Fantasia opened 67 days ago, 818 tickets were sold each day at the Pitkin. How many tickets were sold all together?

   54,806 tickets

3. In a swimming race, 217 racers swam a total of 2604 miles. If they all swam the same distance, how far did each swim?

   12 miles

4. If there are 693 runners in the South Brooklyn Marathon, and each runner runs 26 miles, what is the total distance run by all the runners all together?

   18,018 miles

P.O. 5.01.06.01-.02

NAME: ______________ **CLASS:** ________ **DATE:** ________

Write the Roman numeral for each date below.

FACTUAL TRIVIA

Date	Fact	Roman Numeral
1492	Columbus discovered the New World.	MCDXCII
1620	The Pilgrims landed in America.	MDCXX
1776	The Declaration of Independence was signed.	MDCCLXXVI
1865	The United States Civil War ended.	MDCCCLXV
1885	The automobile was invented.	MDCCCLXXXV
1924	Television was invented.	MCMXXIV
1968	Martin Luther King, Jr. was assassinated.	MCMLXVIII
1969	The first man walked on the moon.	MCMLXIX
1976	America celebrated its bicentennial.	MCMLXXVI
1984	Ronald Reagan was elected to his second term as President of the United States.	MCMLXXXIV
1986	The Mets won the World Series.	MCMLXXXVI

Write the Roman numerals for...

*Answers may vary.

your age. *

the year you were born. *

the year you started school. *

the year 2000. MM

your friend's birthday. *

the number of minutes in a day. MCDXL

the number of days in 3 years. MXCV

CHALLENGE!

Solve the problem below. Express your answer in Roman numerals.

The largest salami on record weighed almost DCCCV pounds. **What would IV** of these salamis weigh? MMMCCXX

Did you change the numerals to Arabic numerals before doing the calculation? Explain why or why not. Answers may vary.

P.O. 5.01.06.03

NAME: ______________________ **CLASS:** ________ **DATE:** ____________

Write the Arabic equivalent of each Roman numeral below.

① CX = 110

② DCCXXXI = 731

③ CLXVII = 167

④ LXXIX = 79

⑤ CXXVII = 127

⑥ CDII = 402

⑦ MCCC = 1300

⑧ MCDXL = 1440

⑨ CD = 400

⑩ MI = 1001

⑪ CXXX = 130

⑫ CM = 900

⑬ MCLIX = 1159

⑭ LIII = 53

⑮ MMXCIX = 2099

⑯ CCCXIV = 314

⑰ CMLV = 955

⑱ MDLI = 1551

Rewrite each example in Arabic numerals and solve.

CLXI + MD = 1661

$$\begin{array}{r} 161 \\ +\ 1500 \\ \hline 1661 \end{array}$$

DCCCI - CCCLVI = 445

$$\begin{array}{r} 801 \\ -356 \\ \hline 445 \end{array}$$

MM + CCV + DCIX = 2814

$$\begin{array}{r} 2000 \\ 205 \\ +\ 609 \\ \hline 2814 \end{array}$$

MMXCIV - MCCVII = 887

$$\begin{array}{r} 2094 \\ -1207 \\ \hline 887 \end{array}$$

Do you remember?

Complete the following:

① $\frac{1}{2}$ ft = 6 in.

② $\frac{2}{3}$ ft = 8 in.

③ $\frac{2}{3}$ yd = 24 in.

④ $\frac{1}{4}$ ft = 3 in.

⑤ $\frac{2}{3}$ yd = 2 ft

⑥ $\frac{5}{6}$ ft = 10 in.

SHARPENING YOUR SKILLS

Units 67, 68, 69

Name: ____________________ **Class:** ____________ **Date:** ________

For each question, shade in the appropriate circle in the Answer Grid below.

1. 200)80,000

ⓐ 40 ⓒ 400
ⓑ 40 ⓓ 4000

2. 300)7807

ⓔ $20\frac{7}{300}$ ⓖ $26\frac{7}{300}$
ⓕ 26 ⓗ 260

3. Good Times Magazine prints 87,385 magazines each month. They package 500 magazines to a bundle when they send them to the stores. About how many bundles do they send out each month?

ⓐ 180 ⓒ 250
ⓑ 1800 ⓓ 500

4. 213)90,099

ⓔ 450 ⓖ $400\frac{99}{213}$
ⓕ 423 ⓗ Not Here

5. Forest rangers planted 1875 trees after a forest fire. They planted the trees in rows of 125 trees each. About how many rows of trees did they plant?

ⓐ 2 ⓒ 10
ⓑ 8 ⓓ 20

6. Which is the Roman numeral for 500?

V ⓔ X ⓕ L ⓖ D ⓗ

7. Which is the Roman number for 430?

ⓐ CDXXX ⓒ DXXX
ⓑ CCCCXX ⓓ Not Here

8. The Roman numeral M represents __________.

100 ⓔ 500 ⓕ 1000 ⓖ 2000 ⓗ

9. 659 = __________

ⓐ CDLIV ⓒ DCLIX
ⓑ DLXIX ⓓ Not Here

10. MMCXXXVI = __________

ⓔ 2036 ⓖ 1806
ⓕ 3034 ⓗ Not Here

Answer Grid

1.	ⓐ	ⓑ	●	ⓓ
2.	ⓔ	ⓕ	●	ⓗ
3.	●	ⓑ	ⓒ	ⓓ
4.	ⓔ	●	ⓖ	ⓗ
5.	ⓐ	ⓑ	ⓒ	●
6.	ⓔ	ⓕ	ⓖ	●
7.	●	ⓑ	ⓒ	ⓓ
8.	ⓔ	ⓕ	●	ⓗ
9.	ⓐ	ⓑ	●	ⓓ
10.	ⓔ	ⓕ	ⓖ	●

P.O. 5.01.07.01-.02

NAME: ______________________ **CLASS:** ________ **DATE:** ______________

PLACE VALUE CHART OF LARGER NUMBERS

Billions			Millions			Thousands			Units		
hundred billions	ten billions	billions	hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
4	7	5	0	5	9	8	1	5	7	3	2

1. Julio read in the newspaper that the national debt of the United States was $475,059,815,732. Using the chart to help you, write the number word for this numeral.

four hundred seventy-five billion, fifty-nine million, eight hundred fifteen thousand, seven hundred thirty-two

2. In a recent year 3184436000 bushels of corn were grown in the United States.
   a. Group the digits by using commas.
   3,184,436,000
   b. Write its word name.
   three billion, one hundred eighty-four million, four hundred thirty-six thousand

3. In a recent year 19,987,400,000 barrels of crude oil were produced in the whole world.
   a. What is the value of the 1 in 19,987,400,000?
   10 billion
   b. What is the value of the 9 in the billions period?
   9 billion
   c. What are the digits in the millions period?
   987

4. Answer the following:
   a. Which is greater, 42,000,000 or 42 billion?
   42 billion
   b. Which of the following is the greatest: 575 million dollars, 40 billion dollars, or $75,000,000?
   40 billion
   c. Circle the numbers that are greater than two billion.
   13,517,126 [✓ 3,427,691,721] 964,327,600
   3 million [✓ 2,000,000,100] 99 million
   d. Circle the numbers that are greater than ninety-nine billion.
   100,243,684 [✓ 245,763,253,186] 9,275,621,253
   100 million 99,000,000,000 [✓ 100,000,000,000]

P.O. 5.01.08.01-.03

NAME: ______________________ CLASS: _______ DATE: ____________

A. Circle the symbols which do not belong in base five.

3 2 4 2 1 3 4

[✓ 5] [✓ 6] 0 [✓ 8] [✓ 9]

B. Write the base five numeral represented on each chart and find its base ten equivalent.

①

5^2	5^1	5^0
3	1	4

$$\begin{aligned} 314_{five} &= 3 \times 5^2 + 1 \times 5^1 + 4 \times 5^0 \\ &= 3 \times 25 + 1 \times 5 + 4 \times 1 \\ &= 75 + 5 + 4 \\ &= \underline{\ 84\ } \end{aligned}$$

The base ten equivalent of 314_{five} is 84.

②

5^2	5^1	5^0
2	0	4

The base ten equivalent of 204_{five} is 54.

③

5^2	5^1	5^0
	4	1

The base ten equivalent of 41_{five} is 21.

④

5^2	5^1	5^0
2	3	3

The base ten equivalent of 233_{five} is 68.

⑤

5^2	5^1	5^0
1	4	0

The base ten equivalent of 140_{five} is 45.

⑥

5^2	5^1	5^0
4	0	3

The base ten equivalent of 403_{five} is 103.

P.O. 5.01.08.04

NAME: ____________________ **CLASS:** _______ **DATE:** __________

Find the base five equivalent for each base ten numeral.

1. 37_{ten} = 122 $_{five}$

25	5	1
5^2	5^1	5^0
1	2	2

$$\begin{array}{r} 1 \\ 25\overline{)37} \\ -25 \\ \hline 12 \end{array} \qquad \begin{array}{r} 2 \\ 5\overline{)12} \\ -10 \\ \hline 2 \end{array} \qquad \begin{array}{r} 2 \\ 1\overline{)2} \end{array}$$

2. 59_{ten} = 214 $_{five}$

25	5	1
5^2	5^1	5^0

3. 48_{ten} = 143 $_{five}$

25	5	1
5^2	5^1	5^0

4. 56_{ten} = 211 $_{five}$

25	5	1
5^2	5^1	5^0

5. 79_{ten} = 304 $_{five}$

6. 109_{ten} = 414 $_{five}$

P.O. 5.01.09.01-.03

NAME: ______________________ CLASS: ________ DATE: __________

A. Write the symbols used in base twelve.

0,1,2,3,4,5,6,7,8,9,T,E

B. Complete each series below by writing the missing base twelve numerals.

①	7_{twelve}	8_{twelve}	9_{twelve}	T_{twelve}	E twelve
②	9_{twelve}	T twelve	E_{twelve}	10_{twelve}	11_{twelve}
③	10_{twelve}	11_{twelve}	12 twelve	13_{twelve}	14 twelve
④	18_{twelve}	19_{twelve}	IT twelve	$1E_{twelve}$	20 twelve
⑤	25_{twelve}	26_{twelve}	27_{twelve}	28 twelve	29 twelve

C. Express each base twelve numeral as an equivalent base ten numeral.

① T_{twelve} = 10

② 24_{twelve} = 28

③ 15_{twelve} = 17

④ 31_{twelve} = 37

⑤ 50_{twelve} = 60

⑥ E_{twelve} = 11

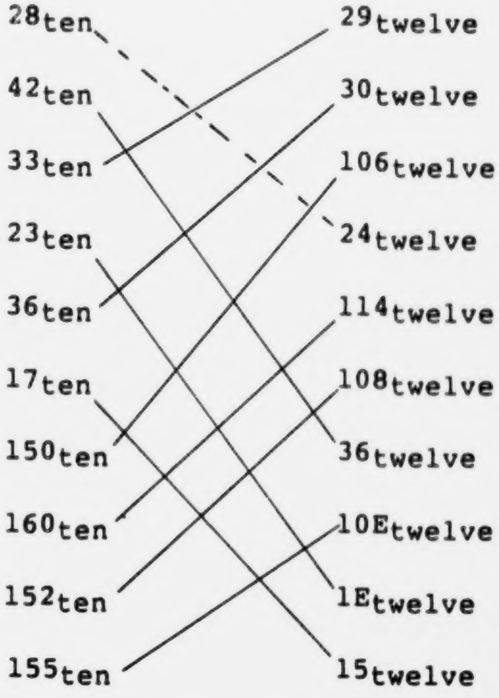
⑦ 72_{twelve} = 86

⑧ 144_{twelve} = 196

⑨ 150_{twelve} = 204

⑩ 85_{twelve} = 101

D. Match each base ten numeral with its base twelve equivalent.


28ten
42ten
33ten
23ten
36ten
17ten
150ten
160ten
152ten
155ten
29twelve
30twelve
106twelve
24twelve
114twelve
108twelve
36twelve
10Etwelve
1Etwelve
15twelve

SHARPENING YOUR SKILLS

Units 70, 71, 72

Name: ____________________ **Class:** ____________ **Date:** ________

1. What place is ten times greater than the ten millions place?

   hundred millions

2. Which place is one hundred times greater than the ten millions place?

   billions

3. What numeral is one hundred million greater than 2,647,598,304?

   2,747,598,304

4. The digit 5 in 6,354,128,213 represents ______________.

   ⓐ 5,000,000 ⓒ 50,000
   ● 50,000,000 ⓓ Not Here

5. Which of the following shows the digits used in writing base five numerals?

   ⓔ 1,2,3,4,5 ● 0,1,2,3,4
   ⓕ 0,1,2,3,4,5 ⓗ Not Here

6. 23_{five} = __________

   ⓐ 135 ⓒ 45
   ● 13 ⓓ Not Here

7. 120_{five} = __________

   ● 35 ⓖ 240
   ⓕ 600 ⓗ Not Here

8. 25_{ten} = __________ five

   ⓐ 101_{five} ⓒ 13_{five}
   ⓑ 51_{five} ● Not Here

9. 12_{ten} = __________ five

   ⓔ 2_{five} ● 22_{five}
   ⓖ 6_{five} ⓗ Not Here

10. 37_{twelve} = __________

    ● 43 ⓒ 31
    ⓑ 35 ⓓ Not Here

11. $5E_{\text{twelve}}$ = __________

    ⓔ 35 ● 71
    ⓕ 60 ⓗ Not Here

12. 65_{ten} = __________ twelve

    ⓐ 67 ⓒ 50
    ● 55 ⓓ Not Here

13. 144_{ten} = __________ twelve

    ⓔ 14 ● 100
    ⓕ 12 ⓗ Not Here

14. Which is greater, 100_{five} or 25_{twelve}?

    25_{twelve}

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